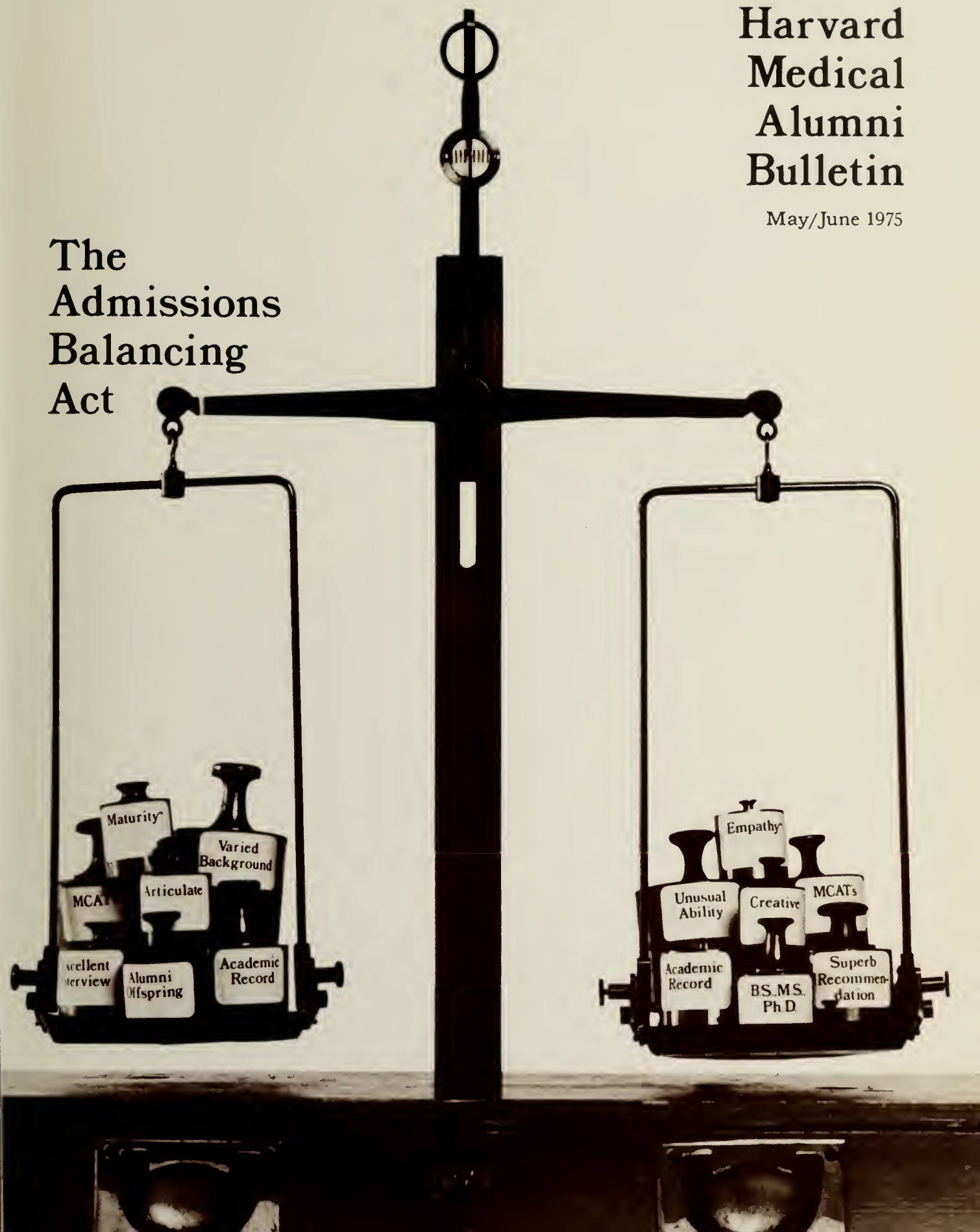
Harvard Medical Alumni Bulletin

May/June 1975

The Admissions Balancing Act



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The New England Journal of Medicine

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Cover: Photograph by Christopher Morrow, design by Margie Smigel, and our sincere thanks to Dr. Robert Walsh of the Massachusetts College of Pharmacy who located and generously allowed us to use the antique apothecary scale. All qualifications being equal, which one gets into HMS? Articles on admissions at Harvard and elsewhere start on p. 11.

Credits: pp. 6, 25-31, Bradford F. Herzog; pp. 8-9, Dick Lewis; pp. 11-12, Christopher Morrow; p. 18, Larry Welsh; pp. 21, 23, Margie Smigel; pp. 32-33, Ernest Craige '43A; p. 45, courtesy of Mrs. Richard Selden.

* *Editor's Note: The portrait of General Joseph Warren that graced the cover of the March/April* Harvard Medical Alumni Bulletin *was painted by John Singleton Copley, 1772-1774.*

We know Librium works.
(chlordiazepoxide HCl)

Value of continuing animal research

Clinical knowledge of Librium is extensive, yet its pharmacology and therapeutic action remain under continuing study. Data from animal experiments have been presented here for their intrinsic interest and because such findings often provide direction to new research, both experimental and clinical. *However, conclusions from such studies may not always be extrapolated to humans.*

Is the limbic system the "Librium system"? (chlordiazepoxide HCl)

A great deal of experimentation on various animal species suggests that the limbic system is the principal site of action of Librium. Thus, in freely moving cats with electrodes implanted in the brain, Librium 5 mg/kg i.p. slowed electrical activity in the hippocampus, amygdala and septal areas but not in the neocortex which was significantly affected only at higher doses.[1,2] Current investigations on monkeys,[3,4] however, indicate that other subcortical structures may be implicated in the effect of Librium. Other investigators, through electrophysiologic studies[5] in intact, conscious cats and monkeys, have demonstrated that chlordiazepoxide activates structures involved in the rewarding system—the preoptic area, lateral hypothalamus, septal region and hippocampal formation. At the same time, it appears to *inhibit* structures implicated in aversive behavior—the thalamic nuclei of the diencephalon and the midbrain reticular formation (MRF).

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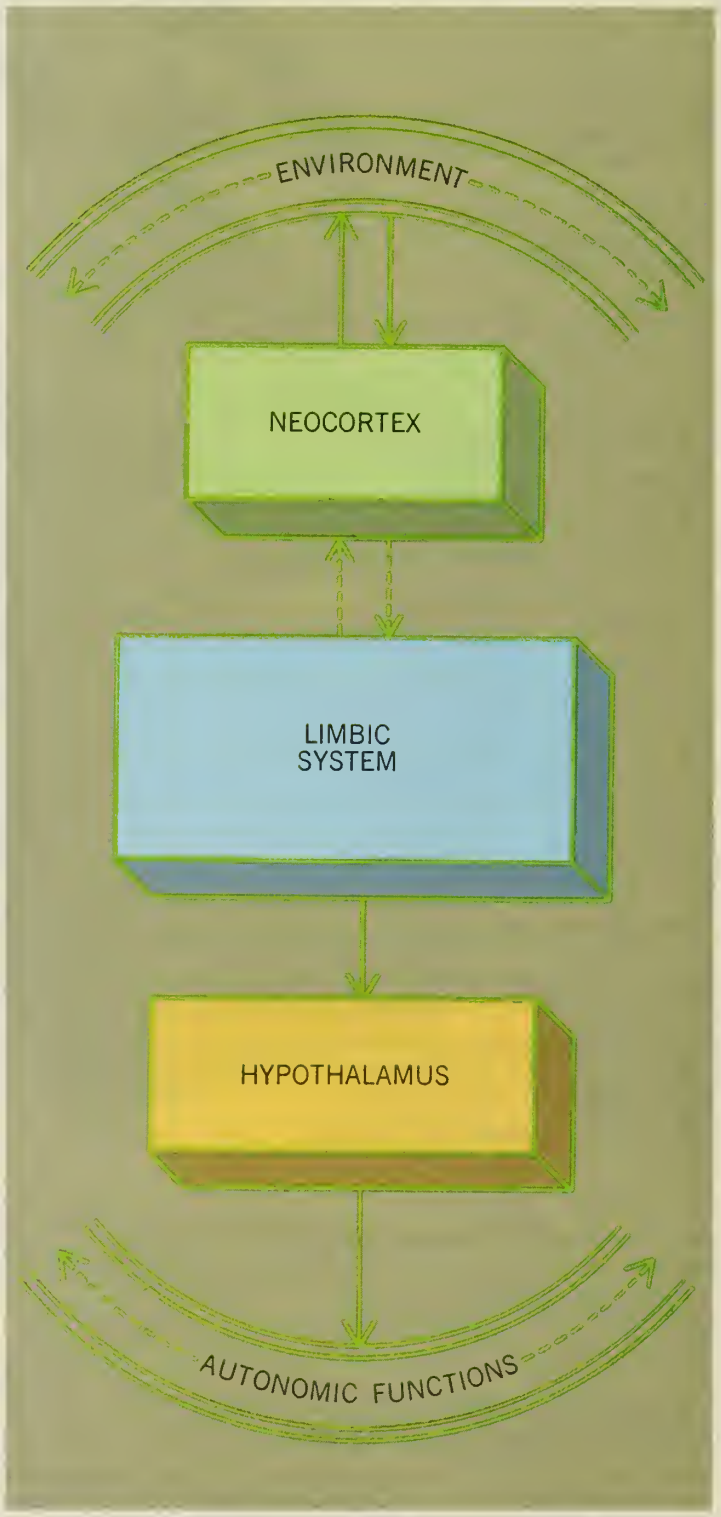

Schema demonstrating hypothetical pathways of emotional activity and its related expression in laboratory animals

We're still learning more about how and why.

Clinical significance of excessive anxiety

Anxiety, when inappropriate and immoderate, may not only have adverse psychologic effects but may also cause various somatic disturbances. Reduction of excessive anxiety thus contributes to relief of anxiety-linked emotional and physical disorders.

Antianxiety action of Librium

The dependable action of Librium has been demonstrated in the relief of excessive anxiety and tension occurring alone or in association with functional and organic disorders—usually without adversely affecting performance. Librium is often used concomitantly, when anxiety is a contributing or complicating factor, with certain specific medications of other classes of drugs, *e.g.*, cardiac glycosides, diuretics and antihypertensives.

Adjunctive use of Librium is recommended when counseling, reassurance or other nonpharmacologic measures alone are not considered sufficiently effective. When anxiety has been reduced to manageable levels, therapy with Librium should be discontinued.

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Librium®
(chlordiazepoxide HCl)

5 mg, 10 mg, 25 mg capsules

We're still learning more about Librium to make it more useful to you.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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Overview

Faculty Debates Chromosome Study

The March 14, 1975 meeting of the Harvard Medical School faculty of medicine was devoted to a formal debate between critics and proponents of a controversial study, "Variations in Behavior with Sex Chromosome Aberrations," which is being conducted by Dr. Stanley Walzer, assistant professor of psychiatry at the Children's Hospital Medical Center; and Dr. Park S. Gerald, professor of pediatrics at the Boston Hospital for Women, the Children's Hospital Medical Center, and the Judge Baker Guidance Center. The aim of the longitudinal study, according to Dr. Gerald, is "an analysis of possible genetic contribution to sex-specific behavior characteristics." At its inception in 1964 it was particularly concerned with the chromatin-positive male (XXY and variants), but it has come to include two-thirds as many males with the XYY karotype.

Last May, Jonathan Beckwith, Ph.D., acting on behalf of a group of concerned individuals at HMS and MIT, asked for a halt to the study, stating that it violated HEW guidelines for research with human subjects. Dr. Beckwith, who is professor of microbiology and molecular genetics at HMS, placed complaints before the faculty's Commission of Inquiry, concerning the project's scientific merit, its risk benefit ratio, and its consent procedure. The Commission referred the matter to the faculty's Standing Committee on Medical Research, which is chaired by Dana L. Farnsworth '33, the Henry K. Oliver Professor of Hygiene, Emeritus. In its report, which was presented at the December 13 faculty meeting with the endorsement of the faculty's administrative board, the Committee reported "some concern on the part of several Committee members that the possible risks of the study might outweigh the benefits," and suggested "that the experimental design of the study could be amended as new data are accumulated to reduce further possible risks." However, they reported no untoward effects or unethical conduct to date.

Further inquiry into the project was then undertaken by the Committee on Human Studies, established in September 1974 by the Medical and Dental Schools, as mandated by federal regulations for the review of research involving human subjects. (See the *Bulletin,* Jan./Feb. 1975, p. 11.) Under present regulations, this committee's approval is a prerequisite for new funding of the study, which prior to June 1974 was dependent only upon the review committees of the participating hospitals. At the February 14 faculty meeting, Chairman Herbert Benson '61, associate professor of medicine at the Beth Israel Hospital, reported without further elaboration his committee's vote to approve the project "on the basis that its benefits exceeded its risks," and "the informed consent was appropriate."

Dr. Beckwith responded with a motion requesting that the Committee be mandated by the Dean to reopen the investigation, and that it give a full hearing to critics of the research. According to Dr. Beckwith, only the research project's proponents and not its critics were invited to the Committee's meeting. His motion also asked that the Committee make a report to the faculty evaluating the risks and benefits of the research, as required by HEW guidelines, and that the Dean appoint members to the Committee representing "the interests of the public and of children in particular."

Dr. Ebert replied that the motion could not be acted upon at that time, and on February 27 he circulated a memo proposing that a debate take place at the March faculty meeting.

The participants, in the order in which they spoke, were Dr. Park S. Gerald; Dr. Jonathan Beckwith; Dr. Julius B. Richmond, director of the Judge Baker Guidance Center, and psychiatrist-in-chief at the Children's Hospital Medical Center; and Dr. David D. Potter, professor of neurobiology at HMS.

What follows is the *Bulletin*'s attempt to give a brief, but adequate and balanced summary of the debate, based on the official minutes of the March 14 faculty meeting. Remarks quoted from the participants are as recorded in the minutes.

Dr. Gerald described the procedures followed in the study in which he and Dr. Walzer have been engaged and stressed that the protocol for the study had been reviewed frequently: at least twenty-one times to date. He summarized the content of the consent form given to parents prior to the chromosomal screening, which "states that some members of the professional community are concerned about the possibility that receiving genetic information might cause anxiety to the parents and that this might affect child rearing." The parents of infants found to have a sex chromosome abnormality are "informed that (1) extra chromosomal material is present; (2) there is no increased risk of mental retardation; (3) if the child is XXY there may possibly be a delay in pubescence and if the child is XYY he may be taller than his siblings; and (4) that our knowledge of the condition is still developing and we wish to follow their child to observe his development." Dr. Gerald then described the procedures used to evaluate the children whose families consent to participate in the longitudinal study. These included interviews with the child's mother by Dr. Walzer, observation of the child by a research assistant, and formal testing by a psychologist. The latter two are unaware of the child's karotype.

Dr. Beckwith stressed that he was not making "an attack on medical research in general," or on "research into the genetics of behavior in general," or even on the Walzer-Gerald study as a whole. The issue at hand, he said, dealt only with that part of the research involving XYY males; with its adherence to HEW guidelines involving human experimentation; and in particular, with its risk benefit ratio.

Dr. Beckwith stated that parents informed that their child was XYY would be caused anxiety and the child would be put at substantial risk of psychological and emotional damage. Said Dr. Beckwith, "[T]he communication of XYY information has a much higher

likelihood of creating problems than the XYY chromosome itself," and in terms of scientific knowledge, "[i]t would not be clear if behavior problems . . . found in affected children . . . were due to the XYY chromosome or to information given to the parents."

Dr. Richmond pointed out that the problem of informing parents exists even if this study were stopped, since "these aberrations are being discovered during amniocenteses and similar choices need to be made." He stressed the "issue of respect for people" and their ability and autonomy to make their own choices about participation in clinical studies.

Notwithstanding Dr. Beckwith's disclaimers, Dr. Richmond expressed the feeling that the criticisms of the XYY study constituted a threat to other research. "A prohibition on studies of babies at risk would preclude studies on children of schizophrenic parents, children suspect for sudden infant death syndrome, perinatal complications, and many other clinical problems." Dr. Richmond also defended the Human Studies Committee's composition, called into question by Dr. Beckwith's motion.

Dr. Potter responded to this by saying that it was "very difficult for other investigators who were concerned with the organizational structure of their institutions to judge research proposals dispassionately. . . Members of the Faculty don't get put at risk themselves . . . history had shown that determined patient advocates were the best guardians of patient safety."

Dr. Potter cited two major reasons for referring the whole study back to the Committee on Human Studies. "Firstly, because the best informed advocates of the benefits of the study were invited to be present, that is Drs. Walzer and Gerald, whereas determined and informed critics were not invited." Secondly, he said that critics of the study had recently learned that the Benson committee, as well as the faculty at its December meeting, had been given "an inaccurate report of the Farnsworth committee's findings on this study. The Benson committee, like the Faculty, was told that the Farnsworth committee had found in favor of the study." Actually, he said, the later committee "had either split or found against the study when considering the matter of benefits versus risks. The exact vote depended on who you listened to."

At the close of the debate Dr. Ebert called upon Dr. Benson, who stated that his committee had some members who were also on the Farnsworth committee, and that they knew what had transpired in the earlier investigation. Dr. Benson reported that his committee had felt that the benefits of the Walzer-Gerald study outweighed the risks, and that they had required five revisions of the informed consent form.

The faculty followed its regular voting procedures in voting on Dr. Beckwith's motion, a secret ballot having been rejected by a considerable margin on a voice vote preceding the debate. It was decided by 199 votes to 35 not to accept Dr. Beckwith's motion.

HMSers Register Opinions on Health Manpower Legislation

An opinion questionnaire on health manpower legislation was sent to 650 HMSers early in 1975 by their fellow students David Bell '77, the HMS student representative to the Association of American Medical Colleges; and Judy Wasserheit '78. Responses were received from sixty-eight per cent of the students. Following are the questions and a breakdown of the responses to each.

1. Is it the responsibility of the federal government to insure that solutions are found to major health care delivery problems?
2. Are you opposed to any form of mandatory service — even if voluntary federal programs using financial incentives to encourage practice in underserved areas prove extremely expensive to the taxpayer?
3. Should AAMC policy be to:
   a. Continue to support "no strings attached" aid to medical education?
   b. Accept the inevitability of conditions on aid and seek to limit them to ones to which most schools could respond and which meet national goals?
4. Listed below are five (5) proposals currently under consideration by the Congress. If such legislation is inevitable, which alternative, if any do you: 1) Favor strongly; 2) Find acceptable, even if disagreeable; 3) Find so unacceptable that you would not have applied to medical school had it already been instituted.

National service agreements must be secured from:
   a. All entering students, using a lottery to select those graduates needed to serve.
   b. 25% of entering students — with each student being given substantial federal support for tuition and living expenses.
   c. *All* entering students — with *all* being given such federal support and *all* being required to serve.
   d. All entering students, all of whom must serve unless they reimburse the government for capitation payments (presently $2100 per student per year) — *in addition to* paying tuition.
   e. All students who receive financial aid.
   f. Medical schools should be free — with all physicians employed by a National Health Service.

(continued on next page)

Yes	No
89%	11%
28%	69%
48%	45%
59%	25%

Favor	Acceptable	Unacceptable
17%	48%	34%
13%	57%	27%
47%	36%	18%
3%	28%	70%
1.8%	19%	78%
26%	35%	37%

	Yes	No
5. If national service agreements are required by law should the medical school be liable for loss of federal funds if a student defaults on his/her payment?	8%	85%
6. Is present U.S. reliance on practicing foreign medical grads an undesirable situation?	70%	25%
7. Should there be a reduction in the number of first year residency training slots to 125% of the U.S. medical school graduates in order to reduce the number of FMGs?	37%	59%
8. Should there be control over the distribution of first year residency slots among the various specialties in order to increase the proportion devoted to preparation of primary care physicians?	53%	43%
9. Should there be control over the *geographical* location of first year residency training slots as one means to insure adequate distribution of physicians after training?	36%	59%
10. If your answer to question 7, 8 or 9 was "yes" would you prefer that the control be exercised by:		
a. A federal commission whose members would be appointed by the HEW Secretary?	35%	65%
b. The private sector, through a non-governmental group such as the Coordinating Council on Medical Education?	65%	34%

Monsanto to Sponsor HMS Research

Most biological and medical research in the US traditionally has been carried out in the non-profit sector of the economy, supported by government and philanthropic sources. An arrangement recently set up between Harvard University and the Monsanto Company of St. Louis explicitly breaks with this tradition: a profit-making, industrial organization will be footing the bill for research done in an academic institution.

Over a twelve year period, Monsanto will support the work of certain HMS faculty members at the Peter Bent Brigham Hospital, Children's Hospital Medical Center, and the Medical School itself, by paying for facilities, personnel, equipment and supplies; and also by making the company's own expertise available to the researchers. Initially, the studies funded will be in the biology of complex molecules.

Countway Houses Minot Sculpture

Some years ago Mrs. Minot commissioned the distinguished New York sculptress, Eleanor Mellon, to do a bust of her late husband, professor George Richards Minot, Director of Harvard's Thorndike Memorial Laboratory at the Boston City Hospital. The sculpture was installed and graced the Minot Conference Room of the Laboratory until Harvard's activities there ceased last year. It was then moved to a place of honor in the Minot Room of the Countway Library, named in memory of George Minot's father, physician James Jackson Minot, which also displays the portrait of George Minot by Charles Hopkinson. As George Minot was a devoted son of Harvard and for many years a contributor to the welfare of the Harvard Medical Library, it is fitting that this room be the repository for both sculpture and portrait.

On Thursday afternoon, October 17, 1974, a small group of Minot family and associates of "G.R.M." gathered to view the bust in its new home. Informal comments were made by former colleagues in appreciation of George Minot's contributions: personal, to Harvard, and to the world of medicine. William B. Castle '21, a former Minot Professor, spoke briefly:

To those of us who knew and worked with George Minot over the years, however apt the likeness in bronze, it is not a substitute for our living memories of him as a friend and colleague. Fortunately, by reading Frank Rackemann's book, The Inquisitive Physician, *everyone may come to know him as he was to his friends and close associates. His was the genius born of persistent curiosity and the capacity for taking infinite pains, his was the ability to arouse desire for more understanding in students and colleagues, his was the confident belief in a rational order of the nature he loved, whether manifest in bird, flower or patient. When in 1957, with the help of his family, friends, and former students, Harvard honored the memory of George Minot as well as itself by the creation of the professorship in his name, I became the fortunate incumbent of the new chair for some years. To me this was a source of great pride and satisfaction; but a far greater privilege was to have known George Minot from my days as a nervous fourth year medical student in 1921 through all the years of our association in the Thorndike at the Boston City Hospital. His kindness and personal interest in my welfare were invariable. Such were his natural responses to those whom he felt were honestly trying – and many were those he helped along the way. Today most of them are no longer young, but for them he remains a bright figure and a friend of golden days. In closing, to quote Dr. Reginald Fitz at Minot's sixtieth birthday dinner:*

May they enjoy as much as we
Our Minot's ample graces.

As we shuffle off to . . .

by Tobin N. Gerhart '75

At eleven o'clock on a sunny March morning, we chatted amiably in the gray marble foyer of Building A. As the oak doors of the Faculty Room swung open, conversations faltered and our thinly disguised apprehension made its presence felt. Inside awaited three stout tables, the first two bearing a lavish spread of tempting delicacies and punch bowls of dilute Screwdrivers and potent Bloody Marys. On the third rested only a neat pile of 159 white envelopes, each with a name of a single student on the outside, and the name of a single hospital inside. Thus, in the same room where we first met as a class three and one-half years ago, we returned to share, celebrate, and sympathize with one another as we opened the letters announcing our future dispersal.

Because of the far-reaching implications of the decisions involved, choosing an internship had been for most of us an anxiety-provoking experience. The process began last spring with a preliminary class meeting at which Dr. Fred Lane, Dean of Students, tried to reassure us that applying for programs could be fun, and like all HMS classes, we would do very well in the matching results. Despite this, everyone was fearfully uptight, class attendance was uncharacteristically excellent at all subsequent meetings, and many of us harbored visions of dispensing pills for a year in small midwestern towns we never knew existed.

We chose advisors and asked for anyone's opinion on the merits and beartraps of the various programs. We filled out applications with two lines of space allowed for extracurricular activities and two sheets to list publications. We flew, drove, skiied, and camped our way around the country for interviews. We may have surprised ourselves by actually turning up three faculty members willing to write letters of recommendation. And finally, after much agonizing and perhaps flipping a few coins early in January, we mailed our rank lists for the National Internship and Residency Matching Plan.

Then began the months of oscillating anxiety. On sunny days we daydreamed of strolling, dressed in dazzling white, down the halls of the hospital of our first choice, while in the silent dead of night we squirmed with the ultimate fear of matching last or nowhere at all. We were seized by nocturnal paroxysms of vacillation about the ordering of our rank lists. Thanks to the wisdom of the Evanston bureaucrats, the computer would accept no changes. Thus, after a year of apprehension, we found ourselves in the Faculty Room with opened NIRMP letters in hand, a little dazed, and not entirely sober.

The results contained in those letters, taken as a group, conform closely to the Matching Plan patterns of recent HMS graduating classes. For instance, the number — about forty-two per cent — remaining in Boston for training programs is not a significant change from classes of the past four years. Another statistic which differs little from past classes is the number of students receiving their first three confidential rank choices. Seventy-six are matched at their first, twenty-one at their second, and twenty at their third choices. Although objectively our success parallels that of former classes, subjectively we seem generally happier with the results. This view of us is shared by Dr. Lane, who for the past three years has had the difficult and often thankless task of helping HMSers get the internships they want.

For our relative felicity to be understood, the mechanism generating disgruntled students must first be explained. Each year, large numbers of highly qualified applicants compete for a modest number of slots in the most prestigious medical and surgical training programs in the nation. The situation almost guarantees some dissatisfaction with the results. This year, some growing trends in medical students' career choices appear to have less-

CLASS OF 1975 POST-GRADUATION PLANS*

	Total Class (162)		Men (130)		Women (32)	
	No.	%†	No.	%†	No.	%†
Medicine	79	49	68	53	11	35
Surgery	34	20	32	25	2	6
Pediatrics	26	16	11	9	15	47
Family Practice	9	6	9	7		
Flexible	4	2	2	1	2	6
Pathology	3	2	2	1	1	3
Ophthalmology	2	1	2	1		
Obstetrics-Gynecology	1	1			1	3
Psychiatry	1	1	1	1		
Other plans	3	2	3	2		

* The full internship list will appear in the July/August issue.
† Percentages are approximate.

ened the competitiveness of the internship matching shuffle. First, increasing numbers of students are becoming more insistent on a reasonable quality of life-style, rather than blindly sacrificing all of their personal or family lives for house officer training. Thus for many, every third night surgical programs compete favorably with the almost inhumane on-call schedule of the traditionally pre-eminent centers. Second, many are deviating from the traditional straight surgical or internal medicine pathway. Some have chosen to mix medicine with social science interests they developed before entering medical school, and plan to pursue careers in legal medicine, public health, and health care delivery. High-pressured, academic, prestigious internships are not necessarily required or desirable prerequisites for such work.

While this year's HMS graduates show a change from previous classes in our attitudes toward house officer training and its relation to our career goals, we nevertheless deviate little from our predecessors in our choices of specialty fields. Internal medicine is down slightly at forty-nine per cent. Surgery is up a bit at twenty per cent. Pediatrics shows the only real change, increased to sixteen per cent compared to an average of about ten per cent in past years. Only nine students are entering family practice and only one, psychiatry.

Such statistics reveal that the Class of 1975 has not exactly leaped to respond to the alleged health care needs of the nation. No one I know has expressed an interest in geriatric medicine. The percentage entering family practice is small compared to pediatrics, while future surgeons make up over one-fifth of the class. Seven HMSers plan to enter ophthalmology, which is the most highly filled of all the residency programs. We seem more intent on pursuing those specialties that interest us or suit our life-styles, than on responding to predictions of what kind of doctors will be needed fifteen years from now. Apparently, we assume that if you go to Harvard Medical School and work reasonably hard, then you should be able to follow your own interests despite the dictates of supply and demand.

The class of 1975 has the largest number of women graduates of any HMS class to date. Thirty-two, or about twenty per cent are women, and this figure will increase steadily in succeeding years. When specialty choices are compared, the sex differential is dramatic. Fifteen, or about forty-seven per cent of the women, are entering pediatric residencies, as opposed to eleven, or only about nine per cent, of the men. Eleven women will begin internal medicine and only two will pursue surgery. No women chose family practice.

The option of spending an extra year or two at HMS doing research or other activities is taken by many students. Of the 166 members of the entering class of September 1971, thirty-four do not plan to graduate this June. Thus, what began as a tightly knit group that sat through lectures, dissected cadavers, and looked through microscopes together, has drifted apart, both joining and joined by other classes.

When we opened those portentous white envelopes in the Faculty Room, at first we acted a bit subdued, as our egos needed some time to equilibrate with our future identities and locations. However, by the evening of the alumni-sponsored banquet in the vast hall of the Harvard Club, a mood of downright merriment and celebration prevailed. Reminiscing among friends, we could look back on the past four years with a serene sense of accomplishment and maybe a little nostalgia for our earnest and sometimes awkward efforts and experiences in learning the art of medicine. Beer-fortified optimism painted our future house officerships as exciting challenges, located perhaps in exotic cities, and ennobled with all the status of being an intern. And finally, we grappled with the most exhilarating, terrifying, and perplexing prospect of all — the imminent commencement of our careers as real doctors.

Myth, magic and medicine in ancient times.

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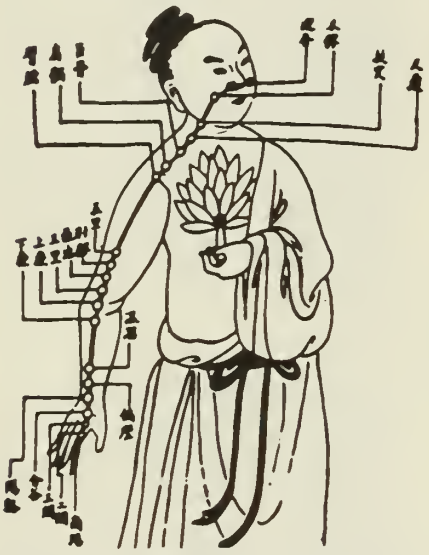
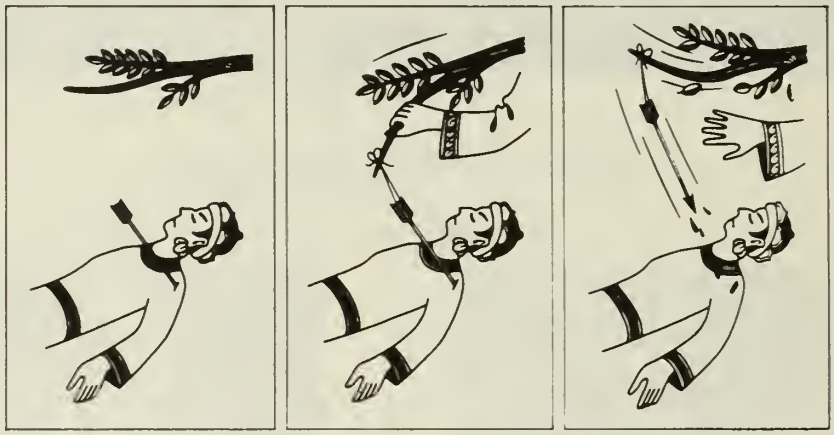


China, c.400 B.C.
The ancient art of acupuncture.
Only when the season, day, hour, and other signs were all propitious would the physician practice his needle point.



India, c.400 B.C. Swift, painless extraction guaranteed.
If there were no tree, the Hindu physician might have tied the arrow's shaft to a horse's bridle and made the horse jerk his head.

Greece, c.400 B.C.
Letter-perfect bandaging.
Hippocrates warned physicians not to use "theatrical bandages", calling them "a foolish parade of manual skill"

India, c.400 B.C.
A prescription to cure the chills of fever.
"Damsels... take the patient into a firm embrace like a forest-creeper entwining itself around a sylvan tree,... keep off as soon as the patient would feel himself heated."

Harvard University Press,
79 Garden Street, Cambridge, Mass. 02138

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A Book of the Month Club Alternate Selection

Why, Whom, and How

This issue of the *Alumni Bulletin* is partially devoted to the subject of admissions: past and present policies and procedures, problems, and projected changes. Second only to the choice of faculty, the process of student selection determines and will continue to determine the quality of our institution; and since the first class entered Harvard Medical School in 1783, the School has had reason to be pleased with its pick, some 14,000 students of outstanding caliber to date. The policies and process of admissions have tended to be vaguely defined, possibly because of the realization that choices were subjective and consequently arbitrary, and that more precise definitions, perhaps becoming excessive constraints, might restrict the variety and breadth of the student body. In recent years, however, social needs and pressures have led to demands for more precise formulations.

The administration and the faculty decided some time ago that more women and members of minority groups should be admitted. The Admissions Committee, accepting this mandate, has been successful in its Affirmative Action to the extent of increasing the percentage of women from 7% in 1945 to 33% in the Class of 1979. And minority applicants have been sought, encouraged, and preferred until they have come to constitute about 20% of each class.

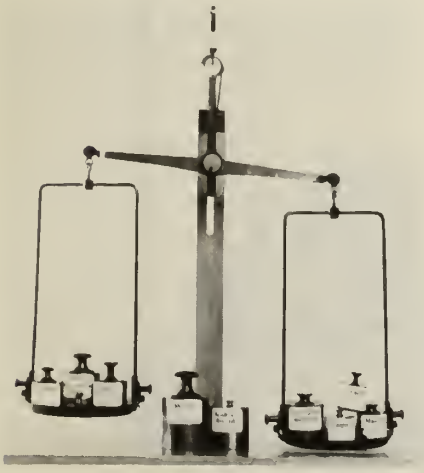
Other groups have been identified as perhaps requiring special attention: whites from deprived backgrounds; the children of alumni and faculty; and perhaps occasional foreign applicants as well. Each of these groups has its advocates and opponents, with both sides mustering forceful arguments. But meticulous purists who object to any or most special preference forget that membership in these groups is, in the highly subjective process of student selection, less arbitrary a factor in admissions than many other qualifications that may be weighed during the admission process. The deprived should be rewarded for the success of their academic efforts, regardless of their racial background; the Medical School does have a special responsibility to its loyal constituency of alumni and faculty; and Harvard, for many, many years, has accepted its position, not as a parochial institution, but as a national and international center whose graduates can be counted on to fill posts of responsibility the world over.

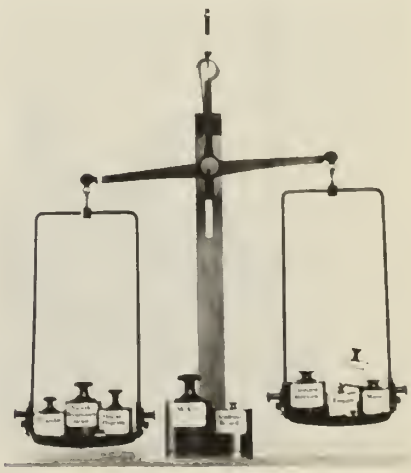
The Admissions Review Committee has faced all these issues and has made wide-ranging recommendations. It has affirmed the need for a continuing search for qualified female and minority applicants, but it has equivocated on the more controversial question of alumni and faculty offspring. The family connections of an applicant to HMS cannot be abstracted from all other considerations and brought back into the equation only when the applicant has been evaluated as "equally well qualified" with another prospect lacking such connections. In the end these genes will count considerably, positively or negatively, depending on the selector's bias.

The same committee has dealt thoughtfully and extensively with admission procedures as well as with philosophy. The proposed changes aim at greater centralization and efficiency, but doubts come to mind: will the two main screening subcommittees or panels be able to cope with the magnitude of their assignment — and will their members be prepared to accept this exigent undertaking if they have no say in the ultimate selections? Will it be feasible to have three or four interviews for all finalists — and is it wise to insist that minority applicants be interviewed by a faculty member and a student of their own minority group? This will impose an enormous burden on a small segment of interviewers and the characteristics in an applicant that may particularly appeal under these circumstances are not necessarily synonymous with those that will produce the best physicians or the most desirable students for Harvard Medical School. And the same considerations, quite diluted by the larger numbers involved, can also apply to the suggestions that every woman be interviewed by a woman.

Hopefully, as in the past, trust and civility will prevail, with reasoned advocacy for or against specific policies, procedures or individuals, and with the reassuring knowledge that many decisions on admissions will be subjective and debatable unless or until they are left entirely to computers.

Guillermo C. Sanchez '49
Current member of the
Admissions Committee





Report of the Admissions Review Committee

Introduction

The Admissions Review Committee was appointed by Dean Robert H. Ebert in August 1974, "to carry out a thorough review and evaluation of the admissions policy and process at the Harvard Medical School and to provide specific recommendations for change."

The Admissions Review Committee has held twelve formal meetings totalling over fifty hours. The members of the committee either collectively or individually have conferred with members of the faculty of medicine, the administration, the student body, and the alumni association. Committee members have familiarized themselves with the actual admissions process by attendance at meetings of the Admissions Committee and of its subcommittees. Finally, two members of the Review Committee have met regularly with the admissions officers of the schools comprising the Twelve School Consortium, under the auspices of the Commonwealth Fund.

The situation facing the Admissions Office and the Admissions Committee can best be described by recounting this year's (1974-1975) experience. A total of 3,208 applications were received; of these approximately 95% were completed and officially processed by the Admissions Committee. The pool represented over thirty states and seventy colleges.

In considering the applicant pool, the Admissions Committee has operated within certain guidelines. First, the affirmative action program of the faculty of medicine calls for positive efforts to increase the number of women students, and the number of minority students in the class. In the case of women students, parity is assumed to be the goal. In the case of minority students a minimum goal of 20% of the admitted students has been set.

Second, of the total 165 places, 25 are allocated to the Harvard-MIT Program in Health Sciences and Technology, leaving 140 places for the regular HMS program.

The recommendations of the Admissions Review Committee fall into three parts:

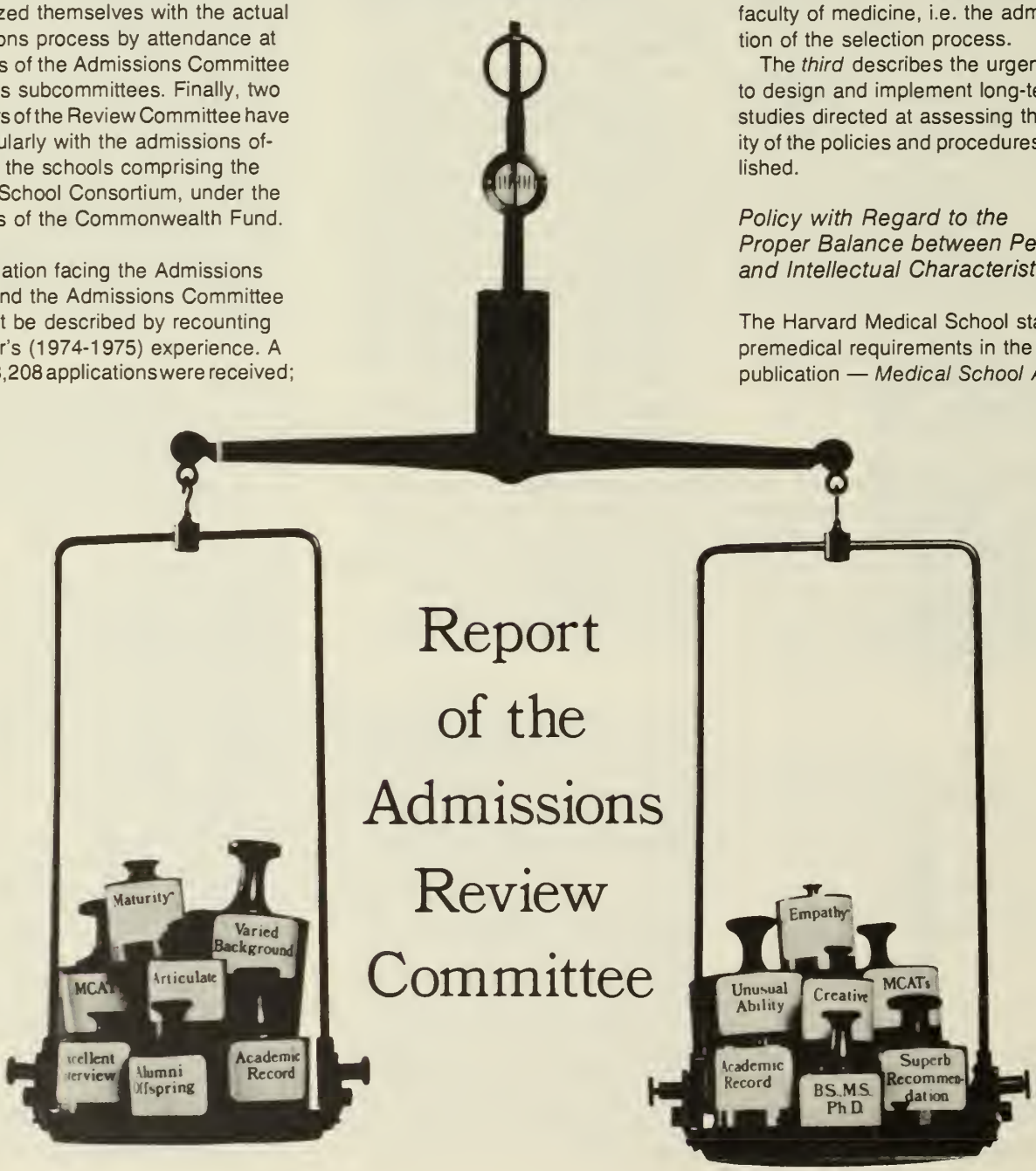
The *first* deals with the setting of policy. In several areas (affirmative action, Harvard-MIT HST Program, for example) definite policies exist. In other areas policy is poorly defined or inconsistent, or non-existent.

The *second* deals with the design and implementation of procedures to carry out the policies determined by the faculty of medicine, i.e. the administration of the selection process.

The *third* describes the urgent need to design and implement long-term studies directed at assessing the quality of the policies and procedures established.

Policy with Regard to the Proper Balance between Personal and Intellectual Characteristics

The Harvard Medical School states its premedical requirements in the AAMC publication — *Medical School Admis-*



sion Requirements, 1975-1976, USA and Canada. The following sentence occurs under the paragraph headed "Selection Factors": "Selection of students is based on a total appraisal of the personal and intellectual suitability of the candidates." The Admissions Review Committee has received many strongly expressed opinions on what constitutes the proper balance between the "personal" and "intellectual" elements of "suitability" for admission. All agree that the pursuit of excellence in whatever field of endeavor chosen, a dedication to effort to improve the lot of the human race, and personal integrity are characteristics which every medical student as a future physician should possess.

The Admissions Review Committee concurs with this point of general agreement. Beyond this, prolonged discussion has failed to yield a precise and unanimous concensus. On the matter of proper balance between intellectual and personal suitability, the committee expresses its general views as follows:
1. The demonstration of superior intellectual ability is a primary requisite for admission to Harvard Medical School.
2. Within the limits set by this policy, the Admissions Committee should identify and select those applicants who show evidence of integrity, zeal for the pursuit of excellence, and the personal characteristics best described as humility, idealism, generosity, etc. Since measurement of these characteristics is at best imprecise, the Admissions Committee should seek help in making them more definitive.

Possible Selection of Students on the Basis of Putative Needs of Society

The Admissions Review Committee has discussed this possibility at length and has sought the counsel of many faculty members. These deliberations have led to two conclusions:
1. It is neither wise nor feasible for the Admissions Committee to try to select students according to predicted future needs of society.
2. The Admissions Committee should not set quotas or goals in terms of finite numbers for the admission of students professing to be interested in careers in academic medicine, or specialty practice, or social medicine or any other specific career, since in most instances career choices appear to be made on the basis of opportunities offered, the demands of society, and factors such as financial remuneration, desire of spouse, social status, and so forth. Further, in the consideration of a given applicant it is unlikely that his or her essay, lifestyle, academic or extracurricular records, or even the reactions of discerning interviewers will give evidence adequate to permit the prediction of his or her future professional career. It is to be hoped that the faculty of medicine will make available curricula providing basic education for a variety of career paths. Emphasis should be placed on the selection of the "multipotential" student who is likely to be a leader regardless of his or her career choice.

Affirmative Action

The Admissions Review Committee enthusiastically supports the efforts of the present Admissions Committee to provide equal treatment for women and minorities in the admissions process. In the case of women applicants, the Review Committee notes that these have increased to approximately 28% of the total applicant pool this (1974-1975) academic year, and that of those applicants admitted, 33% were women. The Review Committee urges that efforts be continued to increase the number of outstanding women candidates in the applicant pool, and that this policy of no discrimination on the basis of sex be continued.

The minorities admission program of the Medical School has been reasonably successful in that the percentage of minority students in the entering class has risen to 20% (28 of 140 students admitted to the regular program and matriculating in September 1975). Great credit is due to the recruiting efforts of the Minority Admissions Subcommittee, and to its invaluable efforts in identifying the outstanding candidates in this minority applicant pool, which at HMS includes Blacks, Chicanos, "mainland" Puerto Ricans, and Native Americans.

The Admissions Review Committee recommends that this phase of the HMS Affirmative Action Program be continued and strengthened. The minimal goal should be representation of minority groups in the student body at least equal to the proportion of these minority groups in the population of the USA at large. If possible, this goal should be surpassed in recognition of the fact that these minority groups *in toto* represent a greater proportion of the US population under twenty-five years of age as compared to the population at large. This lends additional obligation to increase the output of minority group physicians as rapidly as possible. It is important, however, to give the Admissions Committee adequate flexibility to deal with unusual situations — e.g. either an unusually large or an inadequate number of qualified minority group applicants in any given year.

The Admissions Review Committee became aware of two other problems which merit further study. The first deals with the present somewhat arbitrary decision as to what constitutes a minority group applicant. The second involves a group of applicants identified as "poor whites" — i.e. those white applicants from economically disadvantaged and culturally deprived families. The distinctive characteristics of this group are ill-defined and the magnitude of the problem undetermined. The clarification of these points is the necessary first step leading to the development of a definitive and equitable policy toward the members of this group.

Foreign Applicants

The Admissions Review Committee is well aware that many American students well qualified to study medicine fail to gain admission to any US medical school because of the limited number of places available in the entering class. Some of these disappointed applicants initiate their medical studies in foreign schools; others give up hope of entering the profession. Under these conditions the Review Committee recommends that the existing policy of giving preference to students who are US citizens be continued.

Geographical Considerations

These fall into two main types: *first*: the legal domicile (i.e. "home") of the applicant, and *second*: the geographical location of the college attended by the applicant. In many cases these are in close physical juxtaposition; in other cases the distance between the two is

great (e.g. the applicant from Harvard College whose home is in California). The Review Committee recommends that Harvard Medical School seek a broadly representative student body as to both place of domicile and site of premedical education.

Early Admission

The tension that exists among premedical students due to the competition for admission to medical school has been discussed in meetings of the Admissions Review Committee. No practicable solution is apparent at this time. The suggestion that promising students at a few carefully selected institutions be given tentative admission to HMS before the end of sophomore year with the requirement that they finish their baccalaureate programs (including premedical requirements) has been considered and discussed. While this would relieve tension on the applicant during his or her junior and senior years, thereby providing the opportunity for a better balanced and more productive baccalaureate program for the selected few, the Review Committee feels that this process would simply shift the period of tension to an earlier stage of the applicant's education. It is also aware of the difficulty of appraising ability, motivation, and maturity as early as the middle of the second year of college.

At least within Harvard University a closer and more effective liaison between the premedical Advisory Group in the College and the Admissions Committee in the Medical School would be fruitful.

Admission to the Second and Third Year Classes

The Admissions Review Committee is aware that vacancies in the second and third year classes occur infrequently and irregularly, and that this situation is unlikely to change in the near future. It recognizes that the virtual disappearance of the two-year medical school has reduced the moral obligation to make room for transfer students. Nonetheless it feels that the occasional transfer student in these classes lends leaven to the loaf and thus should be encouraged, particularly when poignant and justifiable personal reasons exist. In the acceptance of such transfer students there should be no compromise with standards of quality and preparation.

Policy Toward Offspring of Special Groups

What special consideration, if any, should be given to applicants representing the offspring of HMS faculty, of HMS graduates, and of physicians not included in the first two categories? These issues have been discussed with faculty members, with medical students, and graduates of HMS, both in the Boston area and at a distance.

In spite of much discussion, the Admissions Review Committee has experienced difficulty in formulating a clear-cut definitive policy in the matter. It offers the following recommendations:
1. Applicants representing one or more of the three categories should be identified by the Admissions Office whenever possible and should be drawn to the attention of the Admissions Committee.
2. Those applicants who on careful and sympathetic examination of their records are judged to be below the acceptable level of quality performance should be dropped from further consideration. In case of doubt, a regional interview with an HMS graduate should be arranged.
3. Those applicants deemed worthy of serious consideration should be put in the regular pool of acceptable applicants for consideration by the Admissions Committee.
4. If two applicants in competition for a single place are judged by the Admissions Committee to be equally well qualified on the basis of academic record and personal attributes, and one is the offspring of a member of the faculty of medicine or of an HMS graduate, that applicant shall be given preference over the other who has no HMS ties.
5. Finally, when an applicant in any of the three categories delineated above is rejected, the Admissions Office should attempt to communicate with the parent concerned in order to explain the reasoning behind the adverse decision. This is particularly important in case of those applicants whose parent (or parents) is a member of the faculty of medicine or a graduate of HMS, or both. In the exercise of an admissions policy which is both critical and just the School must make every effort to retain the loyalty of its supporters.

Admissions Procedure Issues

The two elements of the admissions process which have aroused the greatest discussion are (1) the role of the interview, and (2) the role of the subcommittee and the relation of the subcommittee(s) to the overall Admissions Committee. The two issues are entwined in many ways and a discussion of one inevitably leads into a discussion of the other.

In the period 1 September 1974, to 1 February 1975, approximately 1,350 applicants were interviewed. This

The Class of 1979

The Class of 1979 is taking shape, after an admissions process sifting 3,210 applicants down to an entering class of 165 — 140 in the regular Medical School program, and 25 in the Harvard-MIT Program in Health Sciences and Technology. The precise composition of the class will still change somewhat between now and registration day, as a few students decline places at Harvard and others are offered places in their stead. The statistics below apply to the total pool of applicants to HMS this year, and to that group offered and holding places in the incoming class as of April 25, 1975.

Applicants for the Class of 1979

	(Total 3,210)
Men	2,305
Women	905
Members of minority groups*	590
Graduates of Harvard and Radcliffe Colleges	261
Alumni offspring	49

number represented roughly 40% of the total applicant (3,208) pool. With rare exceptions each candidate interviewed was seen by at least two interviewers and in some cases by three or more. The majority of interviews were carried out in Boston at the School itself or at one of its affiliated hospitals. Other candidates were interviewed regionally by traveling members of individual subcommittees or by local graduates of HMS or by a combination of the two. No applicant was accepted without being interviewed.

To be interviewed in Boston was clearly an advantage to the applicant since it gave him or her an opportunity to see something of the School and often something of one or more of its affiliated hospitals, and frequently it gave the candidate the chance to meet with HMS students over lunch at Vanderbilt Hall for an exchange of views. A dedicated group of first year students rendered yeoman service in this regard and did much to enhance the image of HMS in the eyes of the applicants. A casual and obviously limited sampling of applicant opinion yielded only an occasional criticism of the interview itself which in general was regarded as fair, courteous, and detailed. The administrative aspects of the interviewing process came under heavy fire. At least according to some applicants, other medical schools handled the logistical aspects of interviewing better than HMS does. All in all when the heavy load of our interviewing process is recognized, it appears to have worked reasonably well.

The role and value of the interview as presently conducted has been discussed with many members of the faculty and of the student body. The divided opinions expressed have been reflected in the deliberations of the Admissions Review Committee.

These opposing points of view have been debated at length by the Admissions Review Committee which reached the following general conclusions:

1. Although objective evidence of the value of the interview is lacking, such stock is set on the importance of assessing personality factors that no applicant shall be admitted to Harvard Medical School without being interviewed by at least three qualified individuals, of whom at least one shall be a member of the faculty of medicine. One of the other two interviewers should be a student, if possible. In the case of a minority applicant, efforts shall be made that he or she is interviewed by a minority faculty member and a minority student, if possible.
2. In the present admissions system, too many applicants are being interviewed. A more rigorous and critical screening on the basis of the written record would reduce to manageable numbers those applicants chosen for interviews.
3. The general form of the interview should be more structured. Among other things this would enhance the value of the regional interview carried out by the HMS graduate or other physician.
4. The separation of the process of interviewing from that of selection is important and should be carried out. In this way, the written reports of the interviewers would become important evidence (among other data) to be considered by the Admissions Committee in passing judgment on an applicant.

The development of the subcommittees system had its genesis five years ago as a result of several factors. The initiation of the Harvard-MIT Program in Health Sciences and Technology necessitated the formation of a special arm of the Admissions Committee to interview applicants for the program and make recommendations to the parent committee for the selection of students from the applicant pool. At the same time the decision of the faculty of medicine to pursue actively the implementation of a vigorous Affirmative Action Program with regard to minority admissions required the formation of another subcommittee that would take responsibility for the recruitment and identification of a pool of outstanding applicants from the several minority groups, and after interviewing them would make recommendations to the Admissions Committee for the selection of students for admission to the School. Finally, four years ago the doubling in number of applicants led to the decision to develop a subcommittee system as the most obvious way of dividing the load in a feasible manner. Thus six subcommittees sprang into being: one for the HST program, one for the minority group applicants, and four for the "regular" pool. The latter were assigned colleges grouped chiefly on the basis of geographical location. After a period of trial and error applicants from Harvard College, Radcliffe College, and MIT were divided among three subcommittees, based in the case of the first two institutions on the house of residence.

The original plan called for these subcommittees to be advisory to the parent Admissions Committee. There has been, however, an increasing tendency toward the development of autonomy for the individual subcommittees. At first, the subcommittees were given allocation of places which *in toto* were

Offered places in Class of 1979

	Total (165)	HMS (140)	Harvard-MIT Program (25)
Men	108	88	20
Women	57	52	5
Members of minority groups*	37	31	6
Graduates of Harvard and Radcliffe Colleges	40		
Alumni offspring	6		
Offspring of physicians	29	(including alumni and faculty offspring)	

* including Native Americans, Blacks, Orientals, Chicanos, Puerto Ricans and other Spanish Americans

less than full class size so that there would be available to the Admissions Committee a finite number of places to be used in "balancing" the entering student body. The number of places assigned to each subcommittee was the responsibility of the Admissions Committee which based its decision on the total number of students applying and the number of accepted applicants in the two or three previous years from the group of colleges assigned to the responsibility of a given subcommittee. The subsequent competition by the various subcommittees for additional places and the universal complaint of insufficient numbers led two years later to the assignment of all places to the subcommittees, with "balancing" by the Admissions Committee left for the residual places created by those applicants who turned down their acceptances. This step has been carried further during the present year by the assignment to the individual subcommittees of virtually complete responsibility for "balancing." Although the final authority still rests with the Admissions Committee (usually acting through an executive committee consisting of the chairman of the Admissions Committee and the chairperson of each subcommittee), attempts to exercise this responsibility have met with spirited resistance on the part of the subcommittee members.

In the original plan, appointment to membership on a subcommittee was the responsibility and prerogative of the dean, acting on nominations made by the chairman of the Admissions Committee. In actual practice, responsibility for appointment to a given subcommittee has gone by default to the chairperson of the subcommittee involved.

The subcommittee system as presently implemented has attracted a large number of dedicated faculty and students who have given generously of their time and effort to make the admissions process work. The diversity of membership, combined with the varied philosophies of the individual subcommittees has made for the selection of a talented and diverse student body whose members have brought a great breadth of personal attributes, scientific and other interests, and life patterns to the School. It has fostered the development of more effective working relations with the premedical advisors of the colleges concerned, and it presents the potential for increased communication between applicant and admitting authority. Undoubtedly, it has contributed to the enhancement of faculty-student relationships within the School itself. It has made possible a wider sharing of the load of selecting applicants for admission among the members of the faculty of medicine.

The subcommittee system carries with it some drawbacks. The diversity of the subcommittees has led to the development of different criteria for admission, of different procedures and philosophies. None of the four regular subcommittees is satisfied with its quota; each feels that its standards for admission are higher than those of the other subcommittees and that the quality of its accepted students is higher than the quality of students accepted by other subcommittees. The natural rivalry among the subcommittees has led to jockeying for position, and a growing dissatisfaction with the work of other groups. Within certain of the subcommittees there appears to be a significant lack of trust among colleagues.

If the subcommittee system is to survive as an effective instrument, the relationship between the subcommittees and the Admissions Committee must be precisely defined and then implemented in a straightforward, unambiguous manner. The responsibility for appointment to membership on a subcommittee must remain the prerogative of the dean acting on the recommendation of the chairman of the Admissions Committee. There must be established a regular system of rotation off the subcommittee, and this process should include the chairman. The same philosophy should apply to the Admissions Committee, in order to insure the introduction of new blood and fresh ideas into the admissions process in a regular fashion.

Organization of the Admissions Procedure

There is general agreement that the actual process of admission of students should be streamlined and made more efficient without damage to the principle of a fair and thorough consideration of every candidate. Further, the changes made in the interest of improving the overall process of admission should not jeopardize or threaten special programs designed to enhance the recruitment and selection of women, of representatives of minority groups, and of those with significant interest in and specific qualifications for, the HST program. In the light of these priorities, the Admissions Review Committee recommends the following general procedural steps:

1. The director of admissions working with several seasoned associates under well defined guidelines will carry out the first coarse screening based on the academic record, essay, depth of extracurricular interests, letters of recommendation, and MCAT scores. Minority applicants, and those desiring admission to the HST program will be identified at this time and evaluated by one or more representative(s) of the appropriate subcommittee who will work closely with the director. This process shall cut the pool of applicants to less than half — say from 3,200 to 1,200, including applicants drawn from minority groups, and those applying for the HST program.
2. Each applicant so selected will be interviewed regionally in the applicant's home or college area — by a graduate of HMS, or by a recruiter from HMS, or by a physician known to the administration or faculty of HMS in order to obtain a general evaluation of the candidate's personality, talents, accomplishments, integrity, potential as a physician etc. In the case of a minority student, the interviewer shall be a member of the same minority group, if possible.
3. Candidates in this pool applying for the HST Program will be processed by the HST Subcommittee to produce a number approximately twice the number of places (25) available in the program. The selection process shall include (but is not limited to) analysis of the academic record, letters of recommendation, MCAT scores, essay, the report of the regional interview, and the reports of those additional interviews which the HST Subcommittee chooses to give.
4. Minority candidates in this pool will be processed in similar fashion by the Minority Admissions Subcommittee in order to give a number of applicants approximately twice our present goal (20% or 28 individuals) for minority representation in the entering class.
5. The remainder of the pool of applicants will be divided among two sub-

committees, one of which will handle candidates from colleges which over the past five years have produced an average of ten applicants per year, or better. The second subcommittee will take responsibility for applicants from colleges which over the past four years have averaged less than ten applicants per year. Each subcommittee will be responsible for carrying out the proper number of additional interviews. These two subcommittees shall select a number of candidates, approximately twice the number (112) of the remaining places. The division of "slots" between these two subcommittees shall be the responsibility of the Admissions Committee which will carry out the analyses necessary for a wise decision.

6. As outlined above, these 325-350 applicants shall be given interviews (preferably in the Boston area) by three or four individuals representing both the faculty of medicine and the study body. Each minority applicant shall be interviewed by at least one minority faculty member and one student, and each woman applicant shall be interviewed by at least one woman. If the candidate presents a well-developed field of interest, one interviewer shall be drawn from that field, if possible.

7. The final selection shall be done by a small group of six to ten individuals who shall constitute the Admissions Committee. Its members shall have available to them the candidate's application and supporting data, the characterization and appraisal (and possible ranking) made by the subcommittee involved, and the reports of the interviewers. It shall have the authority to call for additional interviews, if necessary. The members of this final selection group shall not have been involved in the interviewing process, nor in the work of any subcommittee.*

8. The members of the Admissions Committee shall be appointed by the dean for definite and staggered terms of service. At least 50% of its membership shall be drawn from the faculty of medicine. At least two of these shall be members of clinical departments, and at least one shall be drawn from the basic sciences. At least one faculty member shall be a woman, and another a member of a minority group. There shall be two student members drawn from majority and minority groups, respectively. At least one member of the Admissions Committee shall be a graduate of HMS; this individual may or may not be a member of the faculty (or staff) of medicine.

The Admissions Committee shall solicit the advice of the subcommittee chairpersons, and shall invite them to present their lists of candidates to the Admissions Committee at an appropriate meeting. The final deliberations of the Admissions Committee shall be carried out *in camera*. The chairpersons of the subcommittees shall be invited to those meetings of the Admissions Committee which deal with the determination of policy, with voice but without vote.

The Admissions Review Committee urges that the feasibility of the application of computer techniques to the admissions process be explored without delay. This will call for the design and implementation of an experimental study in which during an appropriate period of time, applications will be processed by the procedures outlined above, and by a suitably designed computer program which includes the reports of the various interviewers. The results will then be compared. The proper use of the computers will necessitate careful study and programming, particularly as to what personal data should be utilized. The interests of minority applicants and those desiring admission to the Harvard-MIT Program in Health Sciences and Technology will require particular attention.

Assessment of the Admissions Process

The Admissions Review Committee is aware of the absence of hard data bearing on the relative success or failure of our present process of selecting applicants for admission to Harvard Medical School. Each procedure used in the selection of students has its strong advocates and detractors but the arguments advanced for or against a given procedure are based more on custom, emotion and "instinctive feelings" than on scientifically accepted facts. This is regrettable, for not only does a continuing supply of outstanding students represent the lifeblood of the School, but also the School is presently making a great contribution of resources in terms of faculty and student time and of funds to support the admissions process.

Several possible lines of action are suggested to the faculty of medicine for its consideration:

1. The formation of a Committee on Admission Policy, with annual appointment or rotating membership. This committee would be held responsible for regular (annual or biennial) reviews of the general admissions policy and process, and when indicated, reviews of and recommendations regarding all special admissions programs. Such a committee has been functioning at Stanford University School of Medicine since 1972.
2. The development of cooperative studies with other medical schools. Twelve private medical schools, including Harvard Medical School, under the auspices of the Commonwealth Fund, are presently studying the admissions process and the possibility of joining in a cooperative venture in research and development efforts related to medical school assessment procedures. The AAMC has also begun a review of its MCAT.

The Admissions Review Committee feels that the faculty of medicine, acting through appropriate committees which would have the support of the dean's office, should initiate a continuing long-term study of what we are doing, and why. This would lead to a continuing critical analysis of the results of our efforts in order to separate the productive from the non-productive. By such means, it might be possible to develop logical and effective means for improving our present admissions process.

This is an abridged version of the Admissions Review Committee Report that was co-authored by F. Sargent Cheever '36 and members of the Review Committee. (For a complete list please refer to the Jan./Feb. Alumni Bulletin.*) The report was presented to the faculty of medicine on April 25 and was accepted at the faculty meeting of May 28. If you would like a copy of the original report, write to Dr. F. Sargent Cheever, 25 Shattuck Street, Boston, Massachusetts 02115.*

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* Exception: the chairman, who also serves as director of admissions

25 Years of Admissions at HMS

by Perry J. Culver '41

Director of Alumni Relations

During the last five years, few issues at the Medical School have aroused such emotions and pressures as has admissions. Many individuals and groups expressed the belief that the Admissions Committee was the most powerful committee at Harvard Medical School, and by its actions determined the future course of American medicine. Whether this idea is true or not, everyone has wanted a piece of the action.

Many claimed that the Admissions Committee had been selecting the wrong kind of students and those discontented with the state of admissions wished to effect a change. Students and faculty members with causes to espouse sought to become members of the committee. Political activists wanted the admissions process to be used as an instrument for social change to correct the injustices of society. There were demands from populists that candidates whose parents were physicians, alumni, faculty, or upper middle class should be left out of consideration and that the places in the Medical School be given mostly to those applicants from the social, economic, and ethnic groups that had been so poorly represented among medical students. Supporters of the primary care movement called for the selection of students destined to become family physicians and urged that physicians from the community be placed on the Admissions Committee in order to do this. Well-organized representatives of minority groups pressed for acceptance of greater numbers of minority students, even if not as well prepared in their pre-medical education. Legislation at both the state and national level, either passed or proposed, influenced the admissions process. Finally, the almost insurmountable flood of applicants, which by 1974 exceeded 3,300, made the decisions of the Admissions Committee unpopular with the majority of those concerned.

With this as a background, a brief review of the past twenty-five years of the Committee on the Admission of Students might be informative. There were ten members of the committee in 1950 when Kendall Emerson '33 became chairman; it gradually increased to fourteen by 1960 when I assumed that post; and remained at this level until 1970 when Leon Eisenberg, M.D. acceded to the chairmanship. Members served for approximately five years and there was a rotation of one to three members a year. It seemed that an indoctrination of a year or two was required before a committee member could develop the experience and confidence to look beyond college grades and test scores to evaluate candidates by personal qualifications. Admissions Committee meetings were a continual learning process for all: trends in medical education were frequently discussed, as well as regular evaluation of the factors that made for successes and mistakes in the selection process. The committee members were always aware that their decisions were not infallible.

Ideally, the composition of membership on the committee was to be equally divided between the basic science and clinical faculty. In practice, and in spite of repeated requests from the dean, never were there more than two or three members from the basic science faculty who were willing to serve; the others indicated that they were too busy. Even the full-time clinical faculty were not enthusiastic about giving their time to admissions. As a result, the majority of the committee was part-time clinical faculty who were devoted to the school and to admissions. Those critics who believe that Admissions Committee members tend to select people like themselves, may be confounded to learn of the strong science and academic orientation of most accepted students. Another unsuspected factor was that the basic science members on the committee frequently pushed the admission of applicants who appeared to be more interested in the practice of medicine.

The format of the committee and the process of admissions changed abruptly in 1970 when students were

Among those students who are volunteer recruiters, Marilyn Griffen '77 (second from left) spent a day last August speaking to students participating in the NAACP-Positive Program for Boston's Health Internship Program under the auspices of The Medical Foundation, Inc., in Boston, on opportunities for minority students at Harvard Medical School.

made voting members. As far back as 1951, the committee discussed the wisdom of appointing third or fourth year students but decided that physicians with teaching experience would be better. In addition, sub-committees were instituted as a means of involving many more of the faculty, as well as to meet the demanding work load created by many more applicants, the special interests of the Health Sciences and Technology (Harvard-MIT) program, and minority groups. Now, more than seventy-five faculty and student members have a decision-making role in a rather diffuse admissions process.

As the Admissions Committee was confronted with increasing activism, there came requests for written policy statements. Such had never existed, but in 1969 the committee articulated the policy under which it had always functioned: every applicant is considered in comparison with every other applicant and an effort is made to accept those students who seem to present the most compelling reasons for being offered a place because of intellectual capacity, achievement, extra-curricular activities, maturity, judgment, creativity or unusual abilities which would make for a great class at the Harvard Medical School. There is no discrimination on account of race, color, creed, sex, country of origin or school of attendance. Each individual stands by him- or herself. There was a slightly positive bias in the committee for economically underprivileged applicants, minority applicants, and representatives from small colleges and geographically remote areas. This policy was consistent with the Admissions Committee's concern that special consideration be given to women and minority applicants.

In 1954 the committee discussed suggestions for attracting more outstanding women students, including the possibility of a dormitory. In 1958 they urged renovating the Deanery in Vanderbilt Hall for women students. In spite of some contrary opinions, there has never been discrimination against women. Inspection of the number of women applicants and the percentage of those accepted from year to year as compared with men applicants shows slight preference for women. During the last five years the number of women applicants has risen rapidly and there has been a positive policy to move as rapidly as possible to establish parity for women in the Medical School class.

Applications from minority students have always been welcomed, and generally there were one to three black students in most classes. In 1963 the committee discussed giving less attention to grades and scores of minority students and more concern for character, personality, and non-academic achievements. It was not until 1968, however, when active recruitment of minority students began, that the Admissions Committee became aware of the fear many students had about applying to Harvard. Since then there has been positive encouragement of applications from qualified minority candidates.

The size and composition of the applicant pool and accepted class over the last twenty-five years is shown in Table 1. The number of interviews kept pace with the increase in number of applicants until 1970 at which time it became impossible to provide two interviews for more than one-third of the candidates. Whether or not it is valid, interviews play an important role in admission to medical school.

The academic records of applicants have improved over the years until a majority of the applicants present honor grades. The well-recognized inflation of course grades in colleges has reduced the discriminative value of the academic record in selecting medical students.

The role of the Medical College Admissions Test scores has been questioned, although it continues to be universally used. Figure 1 shows that the average scores for Harvard Medical students have been about the same over the years. In 1967, the committee conducted an experiment by selecting the class without knowledge of the MCAT scores, yet the average scores for that year are as high as for most any other year. It is significant to note that the more years of experience one has on the Admissions Committee, the less likely one is to attach great weight to various grades and scores.

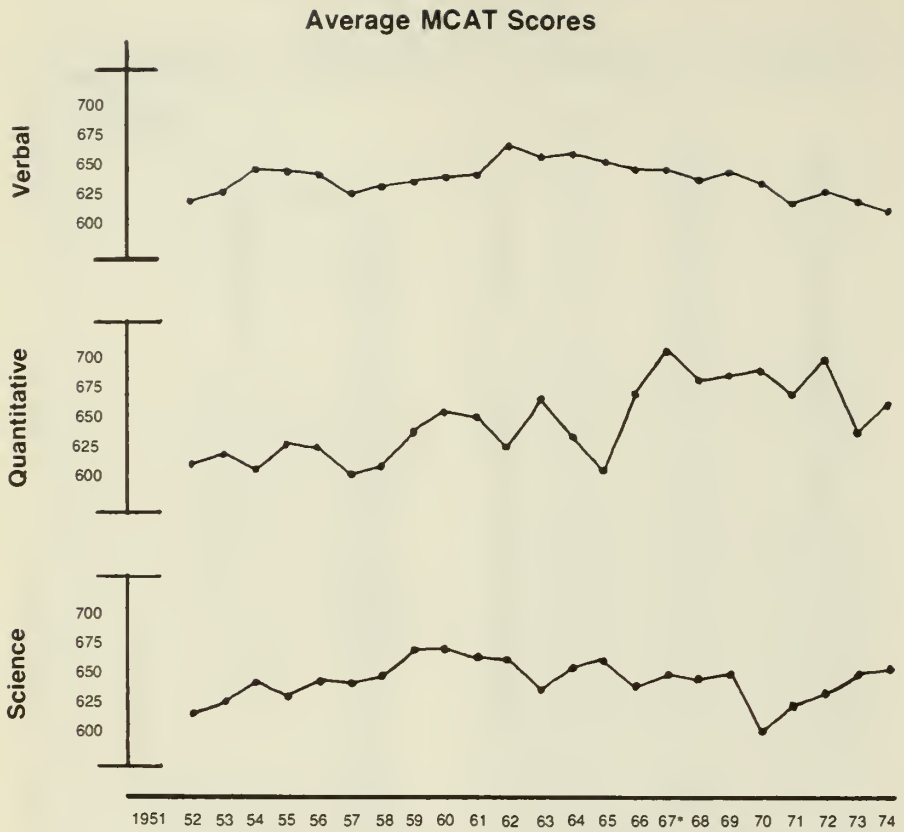
25 Years of Admissions Activity

Year of Entry	Applicant Pool			# Of Interviews	Accepted Class		
	Men	Women	Total		Men	Women	Total
1950	1045	68	1113	*	100	10	110
1951	1539	85	1624	*	108	6	114
1952	1360	95	1455	*	110	8	118
1953	1231	99	1330	848	106	8	114
1954	1210	86	1296	900	105	9	114
1955	1195	89	1284	1068	108	7	115
1956	1260	110	1370	1157	106	10	116
1957	1187	90	1277	1140	107	7	114
1958	1175	98	1273	1143	106	8	114
1959	1002	100	1102	892	108	6	114
1960	865	84	949	870	111	6	117
1961	809	62	871	1057	112	6	118
1962	862	84	946	1206	105	9	114
1963	892	90	982	1034	101	13	114
1964	1042	108	1150	1154	106	9	115
1965	905	97	1002	1057	109	10	119
1966	981	106	1087	1318	112	11	123
1967	1071	122	1193	1395	112	11	123
1968	1279	142	1421	1459	111	15	126
1969	1390	146	1536	1947	128	11	139
1970	1468	198	1666	1815	116	24	140
1971	2720	430	3150	2223	109	29	138
1972	2556	524	3080	2925	127	38	165
1973	2328	717	3045	2432	119	46	165
1974	2442	816	3258	2603	110	55	165

* No Information Available.

Table 1

Figure 1



* The year that the class was accepted without knowledge of the MCAT scores.

The addition of transfer students from two year medical schools to the third year at Harvard has usually infused new ideas and perspective into that class. The numbers involved are shown in Table 2. There was an abrupt cessation of the acceptance of transfer students in 1973 with the advancement of 25 Harvard-MIT students into the third year, and the subsequent commencement of the Harvard-MIT Program in Health Sciences and Technology.

Transfers to Third Year Class

Year of Entry	Applicant Pool	Number Accepted
1950-1960	*	*
1961	40	21
1962	42	24
1963	46	28
1964	49	38
1965	68	34
1966	54	34
1967	59	47
1968	61	31
1969	86	36
1970	89	43
1971	82	37
1972	95	35
1973	**	**
1974	**	**

* No Information Available.
** No Transfers Considered.

Table 2

Table 3

Physicians' and Alumni Offspring

Year of Entry	Physicians' Offspring		Alumni Offspring	
	Applicant Pool	Number Accepted	Applicant Pool	Number Accepted
1950	*	25	*	4
1951	226	23	33	4
1952	223	35	19	6
1953	214	24	22	2
1954	217	34	19	4
1955	143	27	19	4
1956	216	37	31	5
1957	238	35	27	4
1958	227	24	18	4
1959	197	28	19	8
1960	180	31	22	6
1961	186	38	25	8
1962	194	31	17	3
1963	203	39	20	8
1964	205	34	19	5
1965	184	35	16	4
1966	191	29	12	3
1967	238	41	28	7
1968	276	32	28	10
1969	264	31	25	8
1970	250	28	31	8
1971	460	26	38	5
1972	342	27	27	5
1973	423	31	41	9
1974	450	30	47	13

* No Information Available.

The number of physicians' and alumni offspring that gain admittance has always been of considerable interest and is perhaps a continuation of the Hippocratic tradition. Table 3 portrays the degree to which these hopes have been realized. The drop in actual numbers and percentage of alumni offspring accepted in 1971 and 1972 caused considerable malaise to the Alumni Council, which responded by appointing the Alumni Survey Committee to study admissions (their report was published in the March/April 1974 *Alumni Bulletin*). The results and recommendations of their report stimulated the formation of the Admissions Review Committee, chaired by F. Sargent Cheever '36.

Over the past twenty-five years the Admissions Committee has made a concerted effort to be responsive as new priorities have emerged in society, while continually striving to make each succeeding Medical School class the best, as they see it.

Medical School Admissions: Time for Some Changes?

by Willard Dalrymple '46 and Kim Masters '72

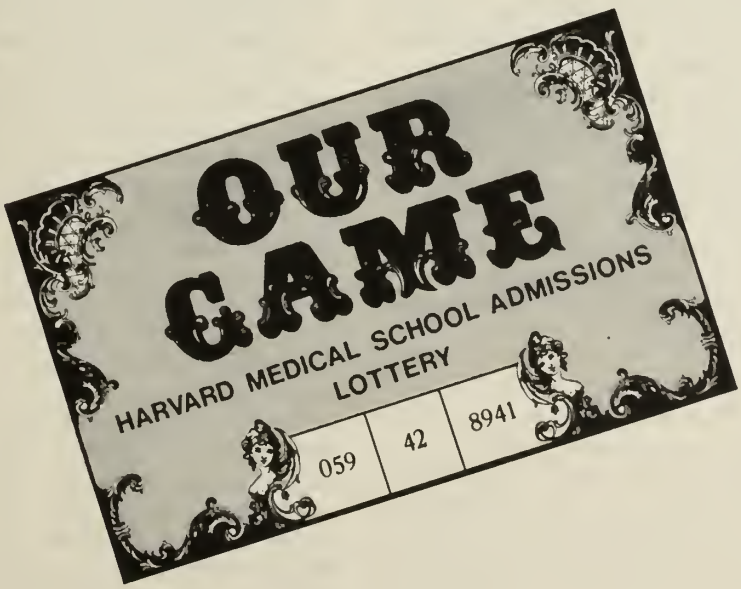
The Premed Crunch

It has been suggested, and not entirely facetiously, that admission to medical school be determined by lottery; it may be that the present system is no better than a lottery. That the current system is unpleasant, inequitable, and unsatisfactory is a generally accepted fact, obvious to premedical undergraduates who bear the brunt of current admissions pressures. It is they who must strive for grades sufficient to meet "cut-off points" established by medical school admissions committees. It is they whose spare time must disappear into laboratory and other lengthy assignments. Above all, it is they who must face those awesome national odds: only one out of three candidates has "made it" in recent years. (And how many more prospective candidates have been deterred by the formidable odds, by premedical advisors, or by premedical screening committees?)

While at some colleges undergraduate premedical students apparently do resort to dishonesty and near-dishonesty in competitive practices, at other colleges the stories of sabotaged experiments and such have generally proven to be apocryphal. In the fall of 1974 the Princeton Advisers for the Health Professions offered all premedical freshmen the opportunity to engage in small group discussions. About two-thirds accepted the invitation to discuss, in groups of fifteen to twenty, any topic of interest with one or two advisers. Almost none of the students felt personally affected by a spirit of competitiveness among premeds. However, half were aware of student attitudes towards them ranging from sarcasm to contempt.

But while the pressures on premedical students are discomforting and produce deleterious effects on some remarkably fine young people, the pressures on medical school admissions committees are equally great. Perhaps they receive less attention only because the medical school committees are supposed to be mature and thus able to handle their impossible task of selection. They may be reassured that only by rare chance or oversight can they make a mistake: with a plethora of excellent applicants, nearly all their admissions will turn out to be satisfactory, if not excellent, students. There is, however, the nagging possibility that they might have done better.

Medical schools and undergraduate institutions need to study in tandem the whole matter of premedical preparation and medical school admissions. Perhaps then they will be able to find better methods for selecting future physicians. Admissions committees often give inordinate consideration to numbers — or frequently a single number — as a criterion for rejection, if not acceptance, of applicants. Many schools have an average grade below which they never or rarely consider non-minority candidates. Ironically, the more prestigious the medical school, the less likely it is to employ rigidly a fixed grade point cut-off.



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Modifying Requirements

Most admissions committees still continue to use the grade point average, the MCAT scores, and other quantitative measures as if they had prognostic value. It is as though physicians were to diagnose and treat pernicious anemia as if William V. Castle had never lived and his work had never been done. Perhaps these anti-educational practices could be justified if these grades and scores were accurate predictors of performance in the medical profession, or even in medical school alone. They are not. Studies summarized a few years ago by Hoyt showed consistently little or no relationship between college grades and later performance.[1] The only positive correlation was between medical school grades and early professional performance of physicians (granted that no general agreement on professional performance or how to measure it exists). Dr. Daniel Funkenstein of the Harvard Medical School has summarized the weaknesses of the MCAT as a predictor: the quantitative and verbal subscores predicted performance poorly, and the science subscore correlated with medical school grades at Harvard only for the first two years (science majors) or three years (non-science majors).[2,3] In the December 1974 *Journal of Medicine Education,* Rhoads, Osterhout, and their colleagues demonstrated a similar lack of correlation at Duke Medical School.

A modification of requirements is in order. It makes good sense to rewrite admissions requirements in terms of learning chemistry, biology, biochemistry, and physics rather than in the current terms of a given number of credit hours of inorganic chemistry, organic chemistry, and so forth. A "usual" program of the equivalent of N semesters of the natural sciences would result, stipulating the general areas of knowledge for which the student would be responsible. The coming revision of the MCAT, with separate divisions for the examination of chemistry, biology, and physics would make evaluating students' accomplishments in science that much easier. (Some changes in state laws would also be required.)

Weigh First, Innovate Second

The admissions committees can take two actions. First, granted that measurements by tests of motivation and of personality traits are of limited worth, the committees should devote considerable and continuing attention to how to weigh non-academic criteria. For example, how many committees keep records of the success of individual committee members in predicting the worth of candidates? It might turn out that a medical student member had uncanny accuracy in such predictions; the medical school should then give the highest priority in recruiting him or her back onto the committee as soon as this was demonstrated.

Next, the committees should innovate constantly. The University of California at Davis Medical School is already choosing students who meet certain basic intellectual and academic requirements according to other criteria.[3] They feel that the motivation and performance of their students, so chosen, is superior. For some years, Columbia University's College of Physicians and Surgeons chose a segment of its class from a group with (relatively) low academic averages but unusually strong personality traits; this segment of the class performed well.

An admissions committee, then, might take a given fraction at random from an entire pool of applicants and consider all those who met minimum standards of academic accomplishment, say a grade point average of 2.8. Their further consideration would ignore actual grades and other scores, which would be unavailable to them, and instead, would be based on personal factors, including the intellectual qualities observed by faculty and others. Eventually, the performance of the group so selected would be compared with that of the group selected in the traditional mode.

Innovation should also extend to the all-important interview. The traditional interview format — to which medical schools have held more tenaciously than other institutions — can be manipulated by good "performers," whether consciously or unconsciously; while the student who lacks what an undergraduate once called "the sparkle factor," or who has considerable modesty, may hide strong motivation and ability. Business schools and organizations have developed simulation situations in which individuals' traits unfold much more reliably. These could be adapted to the medical school admissions process. At some schools, certain candidates, although still a distinct minority, are "jumped" over those with higher academic averages because of superior qualities reported in recommendation letters. This is highly appropriate. However, the premedical committees and others reporting on candidates are themselves highly oriented to achievement, and may be in no position to recognize student weaknesses — greed, excess competitiveness, inability to perceive the needs and feelings of other human beings, venality, and so forth.

"Peer" and Patient Review

In each medical school class, there are a few students recognized by their classmates early on as being inferior candidates for the medical profession. How did they get there? Who knew before they were admitted that they had unsatisfactory traits? One answer is obvious: their peers. At the Tufts Medical School, under the leadership of a member of the admissions committee, Lucien Leape '59, a pilot project is being conducted this year in collaboration with the undergraduate colleges at Tufts and Princeton to tap this source of information about students. The candidates are asked to nominate three fellow-students to fill out a short questionnaire that includes such items as a rating of the candidate's major motives for wanting to be a physician (choice of three out of ten) and a comparison of him or her with other undergraduates and premedical students on some twenty-four personality and attitudinal characteristics. At the end of the admissions season, the relationship of these answers to other information available to the admissions committee will be systematically evaluated.

Another variant would be to interview the peers and tally their opinions. The interview should be both structured and non-structured. After encouraging the peer to talk generally about the candidate's qualities, the interviewer would obtain the peer's opinion on the applicant's assets and liabilities. Perhaps members of the faculty and administration of colleges could be recruited to conduct such interviews with peers (certainly such a program would take a great deal of time).

It is of great interest to both the premedical adviser and to admissions committees to have some insight into candidates' potential bedside manner. Since such testimony is seldom available, why not try patients? From any teaching hospital, a committee could recruit a cadre of patients with experience and sophistication in judging physicians' approach (HMS second year shows usually have at least two or three scenes in which this attribute is touched on), who would be willing to try to evaluate candidates for the committee.

The Importance of Criteria

Beyond these issues there are others of a more fundamental nature. The Harvard Medical alumni committee on admissions last year faulted the admissions committee for having no commonly understood and articulated set of criteria for the choice of applicants.[5,6] Athletes may be up one week, musicians the next, and what the committee had for lunch sometimes seems a determing factor. This sounds irrational, but it may not be undesirable, for it may provide more diversity in a medical school class than otherwise would be the case. Schools with more rigid criteria are probably restricted to a more homogenous group of students. Since prediction of the path that a student will follow in medical school and thereafter is difficult, diversity could at least ensure some cross-fertilization from different academic and social backgrounds. A stereotype of "the" successful applicant, particularly if it exists at a number of schools, would produce great pressure on undergraduates to fit themselves to the stereotype instead of to their own natural inclination.

Nor are the criteria, spoken or unspoken, for choice of students independent of the explicit or implicit goals of the school. The ethos that prevails among the faculty and administration of a school is readily perceived by students. The rank, the power, the money, the prestige awarded to researchers, teachers, and practitioners speak more loudly than any public statement, no matter how emphatic, of a school's orientation.

Another variable in the admissions process directly related to the faculty and administration is the nature of the admissions staff. Traditionally, the staff has been made up of faculty volunteers (or draftees) and in recent years, a small number of students who have worked equally hard and with equal commitment to the admissions process . . . and who often have quickly adopted the glib (and oft-disproven) assumptions of their elders ("Aha! There's a C in that junior course in the vertebrate organism; I'm afraid he'll be too weak for us!") For years colleges have relied on full-time professional admissions officers, to ensure a higher ratio of staff to applicants. At the same time, they carefully develop their criteria for evaluation and acceptance in a way that part-time committee members find difficult. It seems inevitable that more full-time admissions personnel could improve the admissions process (even should the final vote be made by a committee or committees with a faculty majority, and student and practicing physician representation, as suggested by the HMS alumni committee report). Although new committee members often are warned against rewarding "charm" and "sparkle" over "depth," "motivation," and "maturity," premedical advisers think they can recognize many cases where the exhortation is ignored or where compulsiveness is valued over intellectual curiosity, therapeutic urge, and empathy.

Though personal and non-cognitive factors are difficult to define and even more difficult to measure, there can be no doubt that they exist and are important in the performance of a good physician. Concern, conscientiousness, the ability to sense a patient's feelings and needs, the ability to accept and profit by criticism, and similar ingredients are essential to the art of medicine; without them, good medicine does not exist. A taskforce of the Association of American Medical Colleges is now searching for effective ways to assess these non-cognitive factors, but even in the meantime admissions committees have a responsibility to evaluate them by whatever methods they consider most appropriate.

Future Factors

These issues and suggestions are addressed to all medical schools. Each school could act individually, although it will be easier if some or all act in concert. However, there are other problems and possibilities that by their nature demand attention by medical schools jointly, or even by the government.

• *A matching program for medical school placement.* The computer matching system that matches medical school seniors with hospitals for internships or first year residencies is well established. Although the numbers involved would be substantially greater, a similar system could be devised to match applicants with medical schools. Such a program would eliminate much of the musical chairs approach to medical school admissions. A device and not a solution to many of our problems, the matching system deserves adoption if only to reduce, or at least equalize, anxiety among applicants.

• *Residents of differing states have far different opportunities to attend medical school.* While it may be true that there is no room for justice in medical school admissions, one cannot but resent the wide discrepancy between the states in the opportunities their young residents have if they wish to attend medical school. A premedical student from Pennsylvania is in a far better position than one from New York, and one from Vermont or South Carolina is in a most favorable position, due to the ratio of places reserved for state residents to state applicants. Although the potential influence was far greater during the large federal support for medical schools in the mid-1960s, it still might be possible to limit the number of places for residents in state schools to that percentage contributed by the state to its medical schools' budgets. The federal government appears to be planning to use its massive economic leverage to ensure the training of increased numbers of primary care physicians.

• *The difficulties in judging different backgrounds.* Though some may see it so, we do not judge this as an inequity crying for redress. Rather it is a corollary to the schools' over-reliance on grade point average and MCAT scores and to the need to develop better criteria initially. The problem has been particularly acute and poignant vis à vis minority applicants whose early opportunities for acculturation have been severely limited.

• *The possible restriction of the number of applications.* Not only have the total number of applicants for medical school increased nationally, but this increase has led most applicants to apply to more schools. Were candidates limited in their applications, admissions committees would be freed to spend more time on each folder and their overall work would be greatly reduced. Whether this is legal, and more important, whether it is fair to applicants, remains to be decided. The proposal would benefit both schools and candidates and would tie in well with a matching system.

• *Foreign graduates and the number of medical school places.* In some states, more than half of recent accruals to the ranks of practicing physicians have been graduates of foreign medical schools. At the same time, places in American medical schools, where the faculty-student ratio is so much higher than in foreign schools, have been increased only slightly in order to maintain "standards." This bizarre disregard of the actual effect on medical care in our communities brings no credit to the medical schools (though a few have responded in imaginative ways, such as the Tennessee program of admitting two classes a year). Then, too, American students who attend foreign schools are occupying places that could be filled by foreign nationals, who might live and practice in their own country.

A related issue is the supply of physicians in the US. Predictions of a surplus by 1980 or 1985 are based largely on bringing the physician-population ratio in all parts of the country up to the national average of 1969 (or, alternatively, up to the average for the best supplied section of the country, the Northeast). There is substantial evidence that neither the country as a whole nor the Northeast had an adequate supply of physicians in 1969. Therefore we do not feel that the argument is relevant; the need for more physicians continues and will for the predictable future.

The struggle for reform of the admissions system now seems dominated by inertia. Complacency on the part of schools and their faculties is permitted by the buyer's market, and innovation is blocked by the research orientation and faculty domination of the decision-making process. If we can somehow make becoming a physician a little more of a joy and a little less of an ordeal, then society itself will be the beneficiary. Improving the admissions situation for applicants, medical schools, and members of admissions committees will involve subjecting the extant admissions process, on a national scale, to the same painstaking assessment to which serious clinical and research problems alike have always been subject.

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Was it Worth the Money?

by Bruce P. Barnett '75

I needed four years of medical school to experience once again the relevance of a venerable observation, first iterated in 1294: *Non teneas aurum totum quod splendet ut aurum* — Do not hold everything as gold that shines as gold. As a young, innocent first year medical student, I was anxious to equip myself with the best tools for learning medicine. My paranoia ran wild with the desire to insure myself against academic failure — humiliation even — in the presence of the finest minds American universities had offered American medical schools in the year 1971. And so the glowing praise for many textbooks of anatomy, physiology, biochemistry, neuroanatomy, and all the other subjects I should know only too well by now, fell on my ear like the command of instructors and reading lists in college freshman days.

Of the circus and sideshows Phineas Taylor Barnum observed, "There's a sucker born every minute." When it came to medical texts, I appeared at monthly intervals to invest $10, $20, $30 and more in books of varying quality, almost as a gamble, since I had no way of objectively judging their true value at the time of my studies. How was I to make a decision? Most often, no options were offered. Who would dare to study histology without purchasing Bloom and Fawcett? Other texts did exist, but where was the courage to walk in the presence of the don of modern histology clutching an alternative source of wisdom? Could students prepare themselves to learn microbiology at Harvard Medical School without the textbook *Microbiology*, which goes by its Harvard author's name, Davis? For weeks I was convinced that without Lehninger's *Biochemistry* I would fail biochemistry. Then at the time of the first quiz I discovered that even with Lehninger's *Biochemistry* I failed biochemistry.

I searched in vain for mature medical students to help me wisely spend my money and, even more importantly, my time. They all echoed the party line: *Dorland's Medical Dictionary,* Lehninger's *Biochemistry*, Davis's *Microbiology*, Fawcett's *Histology*, Grant's *Anatomy,* Robbins's *Pathology,* Goth's *Medical Pharmacology*. These books enjoyed a virtual monopoly on the shelves of the Medical Coop. I so badly wanted to forgo the $25 tome and carry away instead the $6 softcover. I wanted to believe that Ham's *Histology* with its readable text, clear and colorful illustrations, would not lead me down a crooked road of heresy and on to overwhelming disaster.

Herbert Spiegal, renowned psychiatrist and hypnotist at Columbia University's College of Physicians and Surgeons, has reported that ten per cent of the American population is so suggestible as to be sure prey for any and all sales pitches. I have often wondered whether Harvard selects its students to obtain a far higher index of suggestion susceptibility than the general populace. "You will now buy Gower's textbook," instructs Dr. Green of Harvard Medical School (the names have been changed to protect the guilty), and in Amphitheater C, 163 pairs of eyes roll up and glaze over, and suddenly there is a surge down Longwood Avenue to lay hands on the precious few copies in the habitually understocked Coop. Five weeks later, 163 students snap out of their trance to the realities of an inaccurate, poorly written, totally uninformative, and certainly overpriced text.

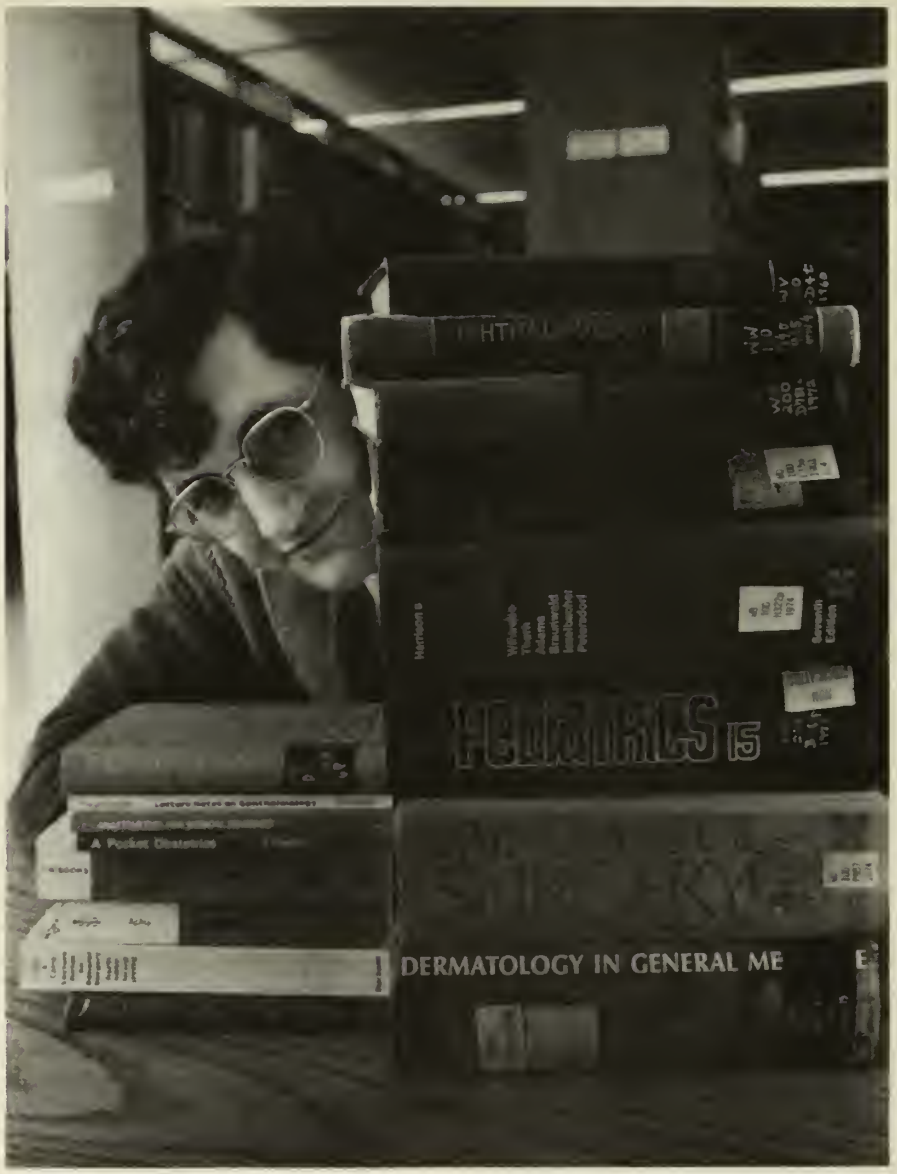
Book-buying did not stop with the basic sciences. As I entered the clinical years I looked to the printed page for the elements of science and medical art that would make me a great practitioner. My surgery instructor recommended Judge and Zuidema, my medicine instructor

swore by Morgan and Engel, and everyone carried DeGowin and DeGowin. I finally bought all three texts on physical diagnosis, as each one sounded more exciting than the next and altogether they sounded at least as gripping as *The Lord of the Rings* trilogy, which I also bought but have not yet read. Of course, any one text would have been helpful enough; none of them was helpful compared to the benefits of direct examination of the patient. But DeGowin and DeGowin in my pocket was a great source of security, assuring me that my stethoscope and I would never be alone in a room with a grade III apical diastolic murmur and no opening snap.

I had learned the error of multiplicity — **Lesson 1: Three not so helpful texts are three times as bad as one not so helpful text.** With this lesson in mind I considered the next source of knowledge for my new clinical adventure, surgery. This time I would buy one book

so complete that I would be free of all doubts that a vital physical sign or medical fact unknown to me lurked in some other textbook and was evident in my poor patient.

My clinical clerkship in surgery for two months was at the Peter Bent Brigham Hospital and I felt an institution of such distinction deserved my best efforts. Sparing no expense, I bought a book weighing four kilograms (somewhat more than the average newborn human) with 1802 pages of text, 54 pages of index, and nearly 2000 references. Then I discovered my on call schedule. On the ward service I had thirty-six hours on and twelve off. That did not leave much time for reading. Other two week-long rotations during the surgery course left me more free time, but it was soon clear that my overview of surgery for the duration could not encompass so broad a horizon as *Principles of Surgery* by Schwartz et. al., yielding **Lesson 2: Do not equate the owning of a book with the acquisition of its knowledge — or even with having the time to try to absorb its teachings.**



That is not to say that big books did not perform many other tasks. They did look impressive. It was surprising how many people assumed I had read, and even more unlikely, had been able to memorize much of the big books' contents. Big books served well as paper weights, doorstops, and bookends holding up the skinnier volumes in my collection. Big books were also truly good sources of information and references when I had a particular question and the time to search out the answer. But it was soon clear that textbooks designed as reference works were not always efficient teaching tools. In other words — **Lesson 3: Sometimes a book can be too darn big for your britches.**

Frightening consequences could follow if students ignored all three lessons at once, buying too many too big books at one time. Trying to learn dermatology, otolaryngology, and ophthalmology all in one month (in the uniquely Harvard course "triple threat") attempts the near impossible. Reading Deweese and Saunder's *Textbook of Otolaryngology* (509 pages), Newell's *Ophthalmology* (527 pages), and Fitzpatrick et. al., *Dermatology in General Medicine* (2048 pages) all in one month requires perhaps supernatural powers. No doubt Harvard has produced physicians with a genius that enabled them to assimilate long hours of clinical experience and many volumes of print. I think the greatest genius, though, might have stood in awe of so many pages in so few days. I would certainly prefer to face a lighter schedule of reading — perhaps Solomon's *Lecture Notes on Dermatology* (268 pages), Trevor-Roper's *Lecture Notes on Ophthalmology* (128 pages), and Foxen's *Lecture Notes on Diseases of the Ear, Nose and Throat* (274 pages) — books well written, up-to-date, and even fun to read.

British physicians authored all of these last three suggestions. It is no coincidence. English medical schools appreciate that a difference often exists between texts for reference and those best suited for teaching. Through my own experience I have discovered that British medical texts, while much smaller than American versions on the same subject, often convey far greater amounts of clinically relevant information in a far more palatable manner. The contrast is highlighted in comparing anesthesia texts. Most Harvard students spend two weeks passing tubes and squeezing bags in the operating room as anesthesia clerks. During this

time the anesthesiology department strongly recommended a multi-authored text of 456 pages. It is well written, complete, and well worth owning, but I found it intimidating. Anesthesia is a serious practice indeed, and when I finished reading Dripps, Eckenhoff, and VanDam's excellent textbook I was still frightened that I might anesthetize my patient beyond reawakening. Dr. Gordon Ostlere (creator of the "Doctor in the House" series of books and television series) and Dr. Roger Bryce-Smith wrote *Anaesthetics for Medical Students,* which contained everything I needed to know and nearly everything I wanted to know about anesthesiology in 139 pages. Its style is remarkable for occasional good humor — the authors commenting that their book is small "so that it may be studied between theater cases, on the bus, or while awaiting the entrance of an unpunctual surgeon" — and an overall approach that let me know I was not alone in my initial discomfort about assuming responsibility for the administration of nitrous oxide, halothane, cyclopropane, and ether. They conclude the text with a perceptive statement: "You are probably now too frightened to approach an anaesthetic machine. If so, this pamphlet has not failed in its object, for a knowledge of the possible dangers associated with anaesthesia is essential to ensure a safe administration." Describing their writings as a "pamphlet" does not do justice to this true textbook, which, in spite of its brevity, contains more useful "pearls" of knowledge than any other I have yet read.

Lesson 4: In my opinion, introductory texts in any subject are nearly always best from Britain. American authors seem incapable of limiting their remarks to a specified audience. As if in keeping with the traditions of equality for all in a great melting pot, American medical texts try to reach student, practitioner, specialist, and researcher all in one volume.

From San Diego, John B. West's book *Respiratory Physiology — The Essentials* appears to take exception to the American trend towards overbearing, wordy texts. It is succinct, with 185 small-sized pages, and more clearly written than anything else in its field. I consider it highly instructive, with a set of reasonably thought provoking questions and answers for each chapter. I was not surprised, however, for Dr. West is originally from Great Britain. He undoubtedly remembered the confusion of pressure volume curves from the body plethysmograph explained with a plethora of variables. He may have remembered his own impatience with lengthy books that made the complicated look even more complicated rather than simple. With those thoughts, perhaps, Dr. West wrote a superb explanation of respiratory physiology that helped me immeasurably when I was just learning to grapple with pressures, volumes, and flows. Clear, accurate, instructive, and inexpensive — a great way to start.

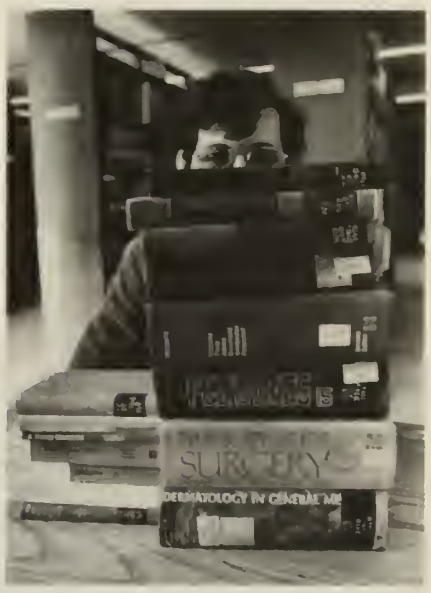
When it became apparent that complete, expensive texts did not enlighten me when they loomed so large as to frighten, bore, or weigh too much to carry around, I began to search for the smallest texts available. For the purposes of a month-long course I sought out books that were fun to read, easy to carry around, and conveyed a fair overview of the field of interest within an approachable number of pages. I have not always purchased these books since they were not necessarily as good a source of furthering my medical education as they were a means of plugging temporary gaps in my knowledge of a particular field. **Lesson 5: What is good for the course is not always good for the shelf.** I never regretted waiting until the end of a course before choosing to buy a text if in the meantime I could borrow from a friend or library. Only after studying neurology for four weeks could I intelligently choose a worthwhile book for my shelves since I was then guided by some knowledge in the field as well as my specific interests. **Lesson 6: Try not to buy any textbook unless you can borrow it, read, and use it before deciding.**

I have long respected the brilliance and expertise of Harvard's faculty, but have also noted that they choose textbooks by different criteria than I would. Too often their meaty texts have been my poison. So by now, trial and error have provided me with my own favorite sources of medical knowledge. But preference in texts, as in breakfast cereals, is a personal matter. (Indeed, some students at times have chosen to go hungry. At various times I have suffered the pains and rumblings of an empty head when confronted by inquisitive professors, patients, and even friends.) One student may prefer aristocratic hardcover editions by Lehninger, Davis, and Guyton to the less expensive softcover cousins of West coast authors Harper, Jawitz, and Ganog. Some students might enjoy the relatively brief *Lecture Notes on General Surgery* — a text by the same Dr. Ellis who wrote the terse and revered *Clinical Anatomy* used by most Harvard students during their crash anatomy course.

Student to student variation in reading habits, within reasonable limits, has recently gained wider recognition as acceptable behavior. Departure from the standard curriculum is not always perverse nor suggestive of a failing medical education. Fortunately, medical persons are remarkably prolific writers. I look forward to sampling and choosing from among *all* their works on both sides of the Atlantic, and on occasion I expect the most valuable lessons will arrive in the smallest packages.

. . . he that shortens the road
to knowledge lengthens life.

— Lacon C. C. Colten



Elio Raviola, M.D.: 'I have never had a conscious strategy in teaching'

I have never had a conscious strategy in teaching. I have always felt that — like facial expressions or gait — communicating with a large audience belongs to the sphere of the instinctive mechanisms. I am convinced that there is no simple way of teaching, but as many ways as there are individual lecturers.

There is a hierarchy of priorities in lecturing: students must understand fundamental concepts of medical sciences; then they must learn them; and finally they must critically interact with the teacher as a professional and as an individual. Thus, I try to be clear, I try to select and emphasize medically relevant concepts, I try to be sincere. My late chairman in Italy used to say that lecturing is a holocaust in which the lecturer is the minister. I would rather say that the lecturer is the sheep. Students are perceptive in appreciating teachers' negative traits or unnatural behavior. Then the lecturer loses credibility, but worst of all, the audience transfers its distrust to the subject of the lecture. So the best solution is to be oneself.

I believe that a lecturer has to be a laboratory instructor as well for two reasons. First, a lecture is effective if tailored to the psychology of the class at that very moment. Often, very good lectures are wasted just because the class is not receptive. The laboratory work insures that the lecturers maintain intimate contact with a representative sample of the class. So when students are tired, worried, or bored, the lecturer can adapt to the audience. Second, one can adapt, repeat, or eliminate things according to the changing feelings of the class during the lecture itself. In the laboratory, I automatically select those students who are good samples of the class as a whole. Then during the lecture I usually watch the students of my group. If they sleep, or open their eyes wide in astonishment, I get worried and change gear: I repeat concepts with different words, make appropriate distinctions, create hierarchies of relevance.

Three years ago, when I moved to this country, my major problem was my scarce language flexibility in lecturing. I had to conform to a written text, otherwise I might get stuck in the mud of unsuitable words. Now it is getting better and I hope to be able soon to adopt again my favorite habit of giving a lecture as a happening, completely free from preordinate schemes.

The 1973 winners of the Boylston award for teaching, selected by the second, third, and fourth year classes, were Elio Raviola, M.D., professor of human anatomy; Harvey Goldman, M.D., associate professor of pathology at the Beth Israel Hospital; Arnold Weinberg '56, professor of medicine at the Cambridge Hospital; and Daniel Federman '53. Jon Polansky '75, student president of the Boylston Society for 1973-74, Robert N. Weinreb '75, student president for 1974-75, and Fred Lane, M.D., faculty president for 1972-1973, organized the meeting at which Drs. Raviola, Goldman, and Weinberg (Dr. Federman was unable to attend) each spoke on various aspects of teaching — in the lecture, in the laboratory, and at the bedside, respectively. This article is an abridged version of their presentations and the discussion that followed, moderated by Dean Robert H. Ebert.

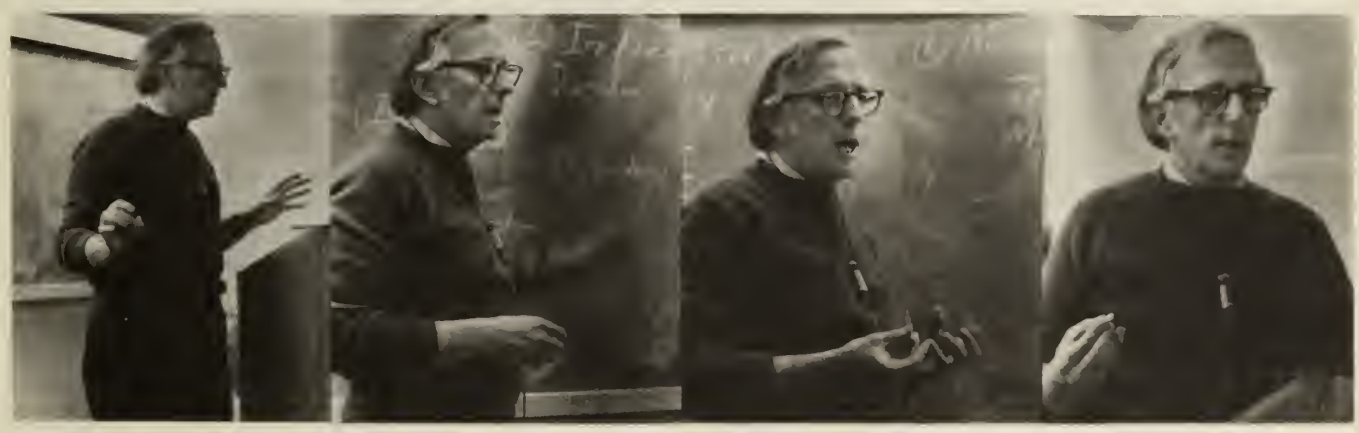
Harvey Goldman, M.D.: 'the instructor must plan for flexible action'

Since our ultimate aim is to bring the student in contact with the patient, some transitional setting between the lecture hall and the bedside is desirable. The laboratory offers this temporary forum. When one notes the considerable amount of factual data that is available in print and also Harvard's large and able faculty, perhaps thought should be given to thes elimination of the formal lecture and transference of the entire teaching staff to the lab. The students would be required, as in their clinical years, to complete a reading assignment and come directly to a small group setting for a more intimate discussion of the material. If a good assignment were lacking in any particular area, it could be created by the teaching staff.

We need to consider the mechanics involved in conducting the lab. The particular nature of the lab, whether viewing slides or performing a physiological experiment, is not an important determinant. The sole aim is to stimulate the students to come and to learn, and the essential ingredient is the provision of a real set of problems. The teachers as well as the students know that these are not real; they are just on paper. Nevertheless, one has to create the sensation that there are answers to these problems, or, if there are no present answers, that the problems deserve our continued attention. As a secondary theme the laboratory may serve as well to introduce the various disciplines. As such, it can expose students to the worlds of morphology, of quantitation, etc.

In contrast to the lecture, where one offers a sixty minute monologue and where everything has to be fairly rigorously structured, including the jokes, in a laboratory one needs a minimum of structure. Instead, the instructor must plan for flexible action. To take advantage of the small group setting, the teacher must engage the students by promoting questions. Initially, the teacher must offer the questions and direct them not to the whole mass but rather to specific persons with names. This includes the prodding of the "quiet" students, who just sit back and do not ask anything. It is not sufficient to wonder whether they know everything or nothing; rather, they must be urged to join the group. There will hopefully follow a return of questions from the students, and if all goes well, a spirited debate will follow.

Remember, however, that all this talk must be stimulating to all of the students, which leads us to the final guideline. Control by the teacher is ever required. By this, I mean both assurances that the pertinent subject matter is being discussed and also control over the participating students. It may be necessary to abort certain questions and even students; this can be done fairly gently by noting that the time is late and referring the item to the end of the hour. I would emphasize that, in contrast to the lecture, the laboratory offers an opportunity to establish a rapport between the teacher and the students so that each gets to know the other very well.



Arnold Weinberg '56: 'the patient is the true center of medical teaching'

While the foundations of our education involve the lecture and laboratory, the *patient* is the true center of medical teaching, the unique and catalytic ingredient in the student's education as a physician. The setting for patient-related teaching has from tradition, and, I hasten to add, from convenience, been at the bedside, but none of us should fail to see that this is but one small environment where patient and doctor meet. A real challenge in medical education today is to provide the means for students to see patients on a continuing basis in ambulatory settings, in doctors' offices, in clinics removed from the hospital locale, as well as within it.

Generally, the hospitalized patient tends to be the most complex, medically and psychologically, and the sorting out of the basics of a problem may be overwhelming for the novice student who is first coming to grips with clinical medicine. In addition, the urgency of decision making and the competition for the patient's time from interns, residents, fellows and staff specialists may make the student a harried and distracted partner in the health team.

As physicians, we now rely a great deal on the history and physical examination as told to us by the student. All too often the major teaching emphasis is on hearing the case presented, then going to check on the student's findings briefly, perhaps spending a majority of time discussing diagnosis and differential diagnosis. How well did the student get on with the patient? Was the physical examination done in a careful, orderly manner using some system that was both consistent with completeness and respectful of the patient's comfort? What sort of manner did the student display at the bedside? Did the patient feel better for the encounter? These critical questions, often not asked, also cannot easily be answered unless we as instructors actually sit in occasion-

The Discussion

RHE: I would like to ask Dr. Raviola to respond to Dr. Goldman's comment that perhaps with all the great skill you have as a lecturer you could be replaced by a tape.

ER: This is certainly possible, when an audio-visual gadget will be invented that does not break when it is most necessary. I am not here to plead the cause of lecturing versus laboratory teaching, but the need of personal contact between teacher and student. The major function of the teacher is to provide the student with a method of understanding and learning, and to communicate to the audience his or her critical approach toward the subject. Students, however, are often able to grasp very subtle things about the personality of the teacher, such as a general attitude to one's work, one's concept of medicine and one's feelings about the function of a physician in society. They may accept or reject you, but the confrontation is always useful.

RHE: Dr. Goldman, would you elaborate on this question — Do you really think that the use of various technological devices allows the same kind of interaction between students and faculty as a lecture?

HG: I would agree with Dr. Raviola that the lecture should include material stimulating to the students. But much of the material that is presented in lectures is straightforward and factual that could be easily read. Perhaps we should have a few lectures to set the stage for thinking about a particular discipline or subject. The time gained would be used in the laboratory. This would imply that we have enough good teachers to staff the laboraties and I suspect that we are fortunate to have them. I think that we can bring out in a small group all that the students do not understand, even though they have been stimulated, even thought they have been given the straight poop. But it is easier to work on twenty-five people, especially if you have had them long enough.

ER: I agree with most of what you said about laboratory teaching, but I would like to add a couple of comments. In a laboratory setting, the instructor should care that each student feel like an indispensable component of the group. One must obviously adapt the lab to the interests of the majority of students and abort questions scarcely important to the economy of the group as a whole; however, a quick allusion at the appropriate moment can also satisfy the demands of an anomalous student or outline the answer to an anomalous question. A disadvantage of laboratory teaching is that students are exposed to a single or small group of instructors. The lectures offer the opportunity to the students to compare different approaches and methods.

AW: One of the major problems around medical school is that in many courses the lecturer may give one or two lectures and then disappear into the woodwork. It would help tremendously if skillful lecturers in particular disciplines were given the opportunity and responsibility to lecture more often.

RHE: Dr. Weinberg, is it possible to

ally on an exam, and then openly discuss what we heard and saw. Taped television interviews are a step forward but should not and cannot replace personal interaction. In similar manner, part of the primary instruction of the student should include observing the clinical teacher in interviews and performing exams.

Francis Peabody, Jackson Professor of Medicine in the 1920s, stated: "What is spoken of as a 'clinical picture' is not a photograph of a man sick in bed; it is an impressionistic painting of the patient surrounded by his home, his work, his relations, his friends, his joys, sorrows, hopes, and fears." If we ignore that "impressionistic painting" in bedside teaching we lose an element of understanding and experience that cannot be gained from an eloquent lecture or a written article.

The good clinical teacher is *comfortable at the bedside,* whether dealing with a cooperative or a hostile patient with a disease familiar or foreign. *By example, he or she shows the manner and words* that invite trust and help bring out that phase of the history pertinent to the problem at hand. *He or she should choose wisely what aspects of a patient's illness to devote time* to in history taking and in examination, for time is precious for both the patient and the five or six students and house officers gathered around. Over the course of days and weeks, by stressing different points with different patients, the effective bedside teacher can impart much of his or her own method in examination and interview technique, using repetition for emphasis, and always saving some time for questions — to keep students on their toes and to find out what has not yet been taught well.

The effective clinical teacher is not afraid to relate to the patient, to share pleasure or concern, to speak of personal reactions to illness, to search out those elements about the patient that can lift the spirits and give more hope and understanding of the problem. The good bedside teacher then brings experience, humility, and concern to the patient encounter — in addition to an understanding of pathophysiology and a storehouse of clinical knowledge.

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teach medicine in an integrated fashion that combines an understanding of basic science and clinical medicine, and simultaneously allows prolonged student contact with an individual faculty member?

AW: One of the characteristics of a faculty of medicine is that everyone is too busy. No single person can do everything, so I would encourage diversification. Those faculty members who are gifted teachers and enjoy student contact should devote a greater portion of their time to those ends. This will require that they spend less time in research, and their value to their school must be measured by a scale that gives less weight to publications and more to teaching competence. Given that these individuals have had some investigative experience, and think pathophysiologically, I feel that a melding of the science of medicine with clinical medicine is possible and involvement with students by such teachers should be nurtured.

Dean of Students Fred Lane: Is either good teaching or good student performance perhaps an illusion? One of the major questions we have in medical education is the definition of valid criteria of evaluation. One of the most impressive pieces of medical research that has been published in the past year was presented at the AAMC meeting in Miami. The title of this presentation was the "Dr. Fox Lecture." A group of medical researchers in California set out to show how difficult it is for an audience to evaluate the educational content of a lecture. They hired a distinguished actor, gave him a false name and an impressive title and supplied an extensive bibliography in advance notices for the lecture. The actor then proceeded to give a lecture to a group of individuals, all of whom had experience in the field. These researchers recorded the lecture and the audience reaction on video tape and showed it at the AAMC meeting. I must admit the lecture was impressive, but when one listened carefully to the sentences, they did not make sense; in fact, it was a nonsense lecture.

At the conclusion of the lecture, members of the audience were interviewed and some of them remarked on the uniqueness of the presentation — that they had never looked at the problem that way before. Others had vague recollections of some of the references quoted, which, in reality, were entirely fabricated. Most of the members of the audience had a positive reaction to the lecture and it was apparent that they were reacting to the expertise of the actor and his mode of presentation rather than to the information imparted. So what is really important in teaching? Do students respond to the mechanism of presentation, to the individual or to the knowledge which is received as a result of the experience?

At Harvard, there is a well known phenomenon called "roundsmanship." Students who are aggressive and outspoken in their clinical clerkships, who have learned techniques of intercepting and responding to questions directed at other students, or who have mastered the art of quoting references in almost any situation whether the reference is related or unrelated to the topic under discussion, are many times rewarded with an A. Many bright students who tend to be somewhat shy by our standards are commonly not rewarded with high grades no matter what their wealth of information might be.

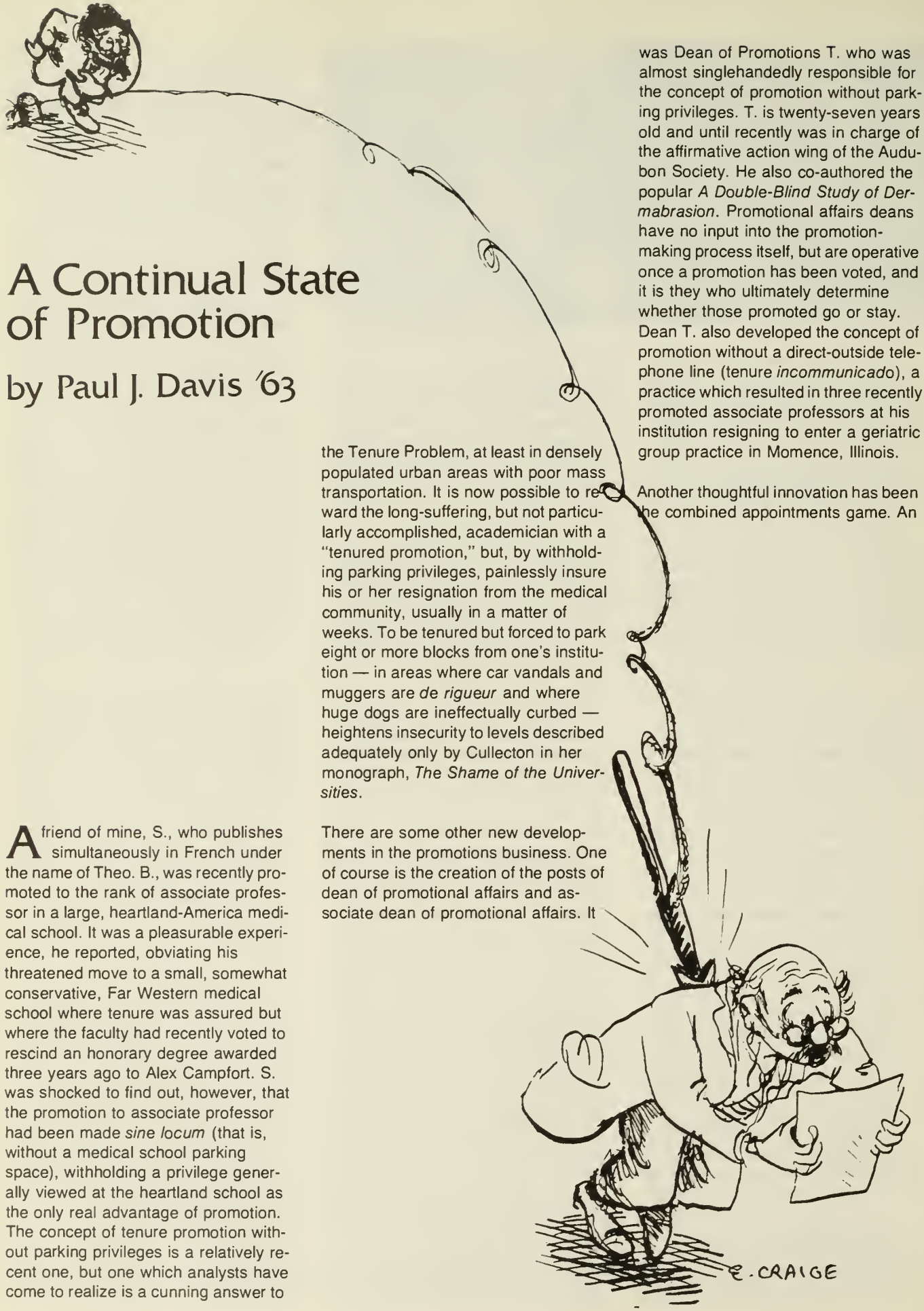
A Continual State of Promotion

by Paul J. Davis '63

A friend of mine, S., who publishes simultaneously in French under the name of Theo. B., was recently promoted to the rank of associate professor in a large, heartland-America medical school. It was a pleasurable experience, he reported, obviating his threatened move to a small, somewhat conservative, Far Western medical school where tenure was assured but where the faculty had recently voted to rescind an honorary degree awarded three years ago to Alex Campfort. S. was shocked to find out, however, that the promotion to associate professor had been made *sine locum* (that is, without a medical school parking space), withholding a privilege generally viewed at the heartland school as the only real advantage of promotion. The concept of tenure promotion without parking privileges is a relatively recent one, but one which analysts have come to realize is a cunning answer to the Tenure Problem, at least in densely populated urban areas with poor mass transportation. It is now possible to reward the long-suffering, but not particularly accomplished, academician with a "tenured promotion," but, by withholding parking privileges, painlessly insure his or her resignation from the medical community, usually in a matter of weeks. To be tenured but forced to park eight or more blocks from one's institution — in areas where car vandals and muggers are *de rigueur* and where huge dogs are ineffectually curbed — heightens insecurity to levels described adequately only by Cullecton in her monograph, *The Shame of the Universities*.

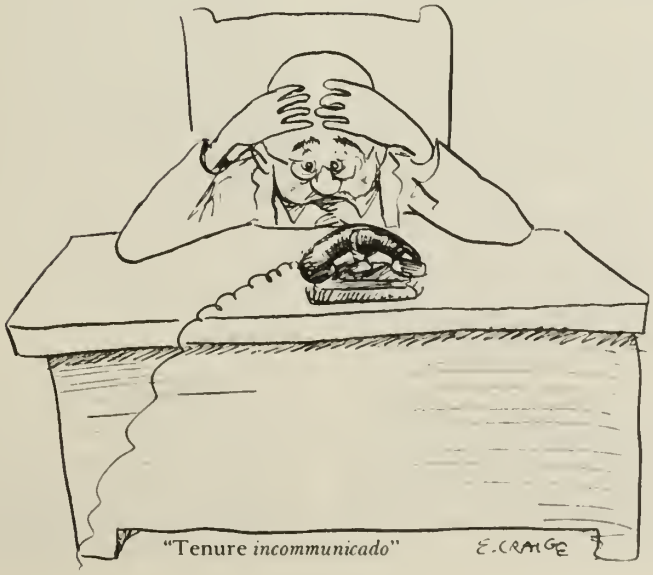
There are some other new developments in the promotions business. One of course is the creation of the posts of dean of promotional affairs and associate dean of promotional affairs. It was Dean of Promotions T. who was almost singlehandedly responsible for the concept of promotion without parking privileges. T. is twenty-seven years old and until recently was in charge of the affirmative action wing of the Audubon Society. He also co-authored the popular *A Double-Blind Study of Dermabrasion*. Promotional affairs deans have no input into the promotion-making process itself, but are operative once a promotion has been voted, and it is they who ultimately determine whether those promoted go or stay. Dean T. also developed the concept of promotion without a direct-outside telephone line (tenure *incommunicado*), a practice which resulted in three recently promoted associate professors at his institution resigning to enter a geriatric group practice in Momence, Illinois.

Another thoughtful innovation has been the combined appointments game. An



interesting example is that of P., who was briefly professor of dermatology and instructor in biomedical engineering. P. was recruited to a wheatland medical school as professor shortly before he entered the second year of his dermatology residency; the decision to recruit him at the professorial level was a hasty one, resulting from a multimillion dollar legacy to the medical school, the use of which legacy was restricted "to research to end the scourge of lichen planus." It was apparent soon after P. arrived that he would best be purged from the faculty, and he was soon awarded a second appointment, as instructor in biomedical engineering. The inconsistency of the levels of the combined appointments rankled P., who felt that he should have been named chairman of biomedical engineering, and he resigned *honoris causa*.

Recent advances in promotions have not been invariably made to encourage faculty relocation. Many institutions have spent the last decade trying to identify incentives which will keep tenured faculty contented. Usually, money has been the answer. More creative thinkers have redirected the thrust of the combined appointments game to this problem. For example, once one had been elevated to professorship, there was, until ten years ago, very little else to shoot for, and a gradual process of brain-smoothening ensued. Now it is possible to intercalate tenured faculty into the already incomprehensible *administrative* hierarchy at the university by upgrading them to the gratifying positions of vice-chancellor[1] or provost.[2] Many of you already recognize these moves as the well-known promotion *der Sicherheitsnadel* ("safety-pinning the individual to the institution") or, as popularized in France, promotion *d'épingle de sûreté*.



I heard from S. last week, by the way. He sold his car and has moved from the suburbs into one of the several trailers at the medical school complex which have been purchased as residences for recently tenured faculty. His book, *Tenure, Anyone?*, is about to be published in microfiche and has an afterword by Alex Campfort entitled, "Sex After Tenure." S.'s wife and children now live in Philadelphia.

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1. The etymologic root of chancellor is from *cancellarius* (L.), "doorkeeper," a derivation apparent to vice-chancellors only after they have been so designated.
2. The root of provost is "man in charge" or "director;" better a provost than a vice-chancellor, most surveys agree.

Letters

An FMG Ripostes

Dr. Ewalt's article on legislating health care, in the January/February issue of the *Alumni Bulletin* deserves a reply at least. In commenting upon the Beall Bill which would require that foreign medical graduates (FMGs) pass parts I and II of the National Board of Medical Examinations or the Federal Licensing Examination (FLEX) he states, "a task impossible for most FMGs." This is of course untrue and represents a lack of perspective or restraint on Dr. Ewalt's part.

Interestingly enough in the same issue, Eugene L. Herzog, a member of the HMS class of '75 wrote an article entitled "To Put a Bit of Yearning into Action." His attitude towards FMGs is certainly refreshingly different. He has noted the fact in *Hospital Tribune*[1] that over 17,000 foreign trained interns and residents are working in US hospitals and are rendering tremendous service to the American public. He comments, "there is cause to re-examine our smugness and self-righteousness." It is of course also true that quite a number of FMGs work in the less glamorous smaller community hospitals holding retractors and generally wasting away their talents. The direction and leadership provided by US medical graduates is, to say the least, woefully inadequate in these institutions. In my experience the situation is little better in the larger centers of learning.

In a recent article in the *New England Journal of Medicine* the whole position regarding FMGs and licensure is looked at in depth.[2] These authors concluded, after exhaustively studying the facts, that the use of licensure rates as measures of medical competence distorts understanding of the quality of medical care in the US. They also cite factors such as difficulty obtaining initial capital, racial prejudice and FMG lack of enthusiasm for private practice in dissuading them from pursuing licensure. Thus, their collective licensure rates suffer, since hospital positions often do not require licenses.

Hugh of Saint-Victor, a great medieval theologian, mystic philosopher, and a founder of scholasticism once stated: "For not to know something is far different from not wanting to know something, since not to know is a weakness, but to detest knowledge is a perversion of the will."[3]

James J. Lanigan, M.D.
Research Fellow in Cardiology
Harvard School of Public Health
National University of Dublin, 1969
FLEX, 1973

1. "Brain drain — not overflow," Editorial, *Hospital Tribune,* 8, p. 7 (1974).
2. "Licensure, Competence and Manpower Distribution: A Follow-up of F.M.G.'s," *New England Journal of Medicine,* 292, p. 137 (1975).
3. "Didascalicon": *Medieval Reader,* p. 573.

FMGs: In Pursuit of the Almighty Dollar?

I much enjoyed Eugene Herzog's recent article [Jan./Feb. 1975]. Mr. Herzog, I am interested in your concept, mentioned on page 32, that efforts of American doctors in countries other than the United States will somehow stimulate the doctors in those countries to have an interest in the medical care of their own underprivileged people.

As you probably know, most of the foreign medical graduates who come here to remain in the United States, do so because of the attractiveness of the income, and what they perceive as a very loose "free enterprise" system. What they find in the United States is often a shoddy and disillusioning work-a-day appointment in a third-rate hospital, which they must go through in order to become licensed or board-qualified.

I somehow doubt that American doctors going and working in the Guatemalan jungle are in any way going to change that situation. As a matter of fact, the more sophisticated Guatemalan doctors will say "Thank God they are here — now we can go to their spots in the United States and make lots of money." Possibly a better example would be for our young doctors to devote themselves to the poor and underprivileged people right here in the United States. Why would that not be the best possible example?

The big "exporting" medical schools of the Philippines, Italy, Colombia, Brazil, and some of the Central American countries, put out far more doctors than can possibly find work in their own countries. While they might be willing to work for nothing in the jungle, that is just not the way they see their motivation towards medicine. It is for this reason that those huge medical schools have made such a business of exporting their overflow to the United States.

Even Scotland has produced more physicians and surgeons than can possibly work in Scotland, for at least 100 years. At one time, a very large fraction of all the medical and surgical practitioners in Canada, and 100% of the professors of surgery, were graduates of either Glasgow, Edinburgh, Dundee, or Aberdeen. And yet, as you probably know from reading the recent studies of the NHS, there is still a very severe problem in getting good primary care to small outlying districts in England, Scotland, Wales, and Northern Ireland. Do you think those doctors would be more motivated to working in a little tiny town in the Northern Hebrides, if a team of United States doctors went there to do the job?

Again, I think it would be more impressive if our physicians, both young and old, devoted themselves to increasing American capabilities of the delivery of health care in our own underprivileged communities, either urban or rural.

In 1910 the Flexner Report wiped out the United States diploma-mills; it is tragically true today that medical schools in the Philippines, Mexico, Colombia, Brazil, and Italy very badly need to be "flexnerized"! But . . . now, *who* is going to do it? WHO?

Your article makes a proposal which is an awfully good one. My only exception to it is this remarkable idea that you are going to go out and set such a sterling example that graduates of third-rate medical schools are going to want to stay at unattractive, low income localities, rather than pursuing the "almighty dollar" as they so steadfastly have done in the past.

Francis D. Moore '39

Don't Forget About Population Problems

I very much enjoyed Eugene Herzog's article in the recent *Alumni Bulletin*. I was particularly impressed by his approach to a deep social problem on the basis of personal compassion, rather than of political dogmas. It seems unlikely that he will get all of his class, or even a large fraction, to join him, but perhaps a modest fraction of several classes would share his feelings strongly enough to constitute an adequate base.

One point that worries me is the consequence of introducing more modern medical care, and eliminating enormous childhood and infant mortality, in an area that already has one of the largest population growth rates in the world. I would like to see the introduction of medical care very strongly coupled with family size control.

Bernard D. Davis '40

Up to the Individual

Eugene Herzog's article is provocative and the comments of Curtis Prout and my old Schweitzer colleague, Harold May, are pertinent. There are innumerable situations where a physician can make a contribution but the choice is intensely individual and often difficult. I applaud Mr. Herzog's exhortation to commitment, but it is perhaps unfair to ask all 150 classmates to support one common cause.

Frank J. Lepreau, Jr. '38

Hindsights from HMS '50

I have read Laurie Watson Raymond '77's notes of "Hindsight From HMS II" [Jan./Feb. 1975]. They have left me both disturbed and sympathetic.

Ms. Raymond, treating your three issues in the reverse order to which you presented them I would say: Of course, it is impossible to answer for any other person whether medicine is the right choice of profession. However, you wouldn't be at Harvard Medical School if you weren't both curious and capable. From a vantage point of twenty-five years further down the line I can tell you with conviction that there is no other profession that simultaneously both so satisfies and yet so frustrates these two characteristics, curiosity and capability. For each question answered, two more pop up unsolved. Each skill developed simply exposes regions in need of greater skill. If involvement with other human beings is "what it is all about" for you, then you have chosen the right profession.

As for "a more generalized medical practice and primary care" than Harvard seems to fit you for, I practice in a small and very isolated community. Our hospital has about sixty beds and the nearest center of greater size and capability is almost three hundred miles away. This practice is most generalized, indeed. Primary and secondary physician here are usually one and the same. I have yet to find a medical school course that would have better qualified me, or you for this "special" kind of practice.

I understand your concern about the curriculum and your frustration at being unable to explore these "blocks of knowledge" at your leisure. One of the cold, steel-clad facts of life is that there just is *never* enough time. A painful decision that will continually confront you is that of priorities and choice between those things you wish to pursue at the expense of others. I think "maturity" might well be measured in terms of an individual's ability to adjust to this fact.

As to your first concern, the fear of failure, frustration and self-doubt. Somehow these words also ring a familiar note from twenty-five years ago and somehow we survived and so will you. Perhaps the "assumption" that students entering graduate school *are* mature enough to withstand "adjustment" was not so faulty after all.

For a number of years we have had a loose affiliation with the UCLA Medical School, accepting as externs individual third and fourth year students for a month at a time at our little hospital. Usually the students who apply and come are testing their interest in "family practice" or "rural medicine." None so far has left less than enthusiastic about their exposure to the way medicine is practiced about as far from the ivory tower as you can get. These students

work and live at the hospital, visit the various private offices in town; some spend considerable time at the Indian Health Clinic (Paiute and Shoshone). Others find themselves drawn to our emergency room or our operating suite. The program is totally open to their interests and wishes, and there are no concentric circles of residents, interns or other students to separate this individual student from the patient, and there is hardly a high powered professor to be found. You are certainly invited and would be most welcome if such an externship interests you.

David B. Sheldon '50

Of Cannon, Codman, & the Noble Ostrich

Moore's reminiscences re Cannon and Codman [Jan./Feb. 1975] struck a minor chord with me, a chord being three or more concordant tones sounded simultaneously and a minor chord having the note in the middle just a little off.

Note 1. Cannon was born in Prairie du Chien, Crawford County, Wisconsin in 1871. Not long before that my great-grandmother gave up a thriving rug business in Poughkeepsie, New York and moved to Crawford County at the urging of her brother, a soldier at Fort Crawford. Poughkeepsie was too crowded, she alleged, and it was no fit place to raise children. Cannon left early. By the time I came along three generations later my engrams were nailed tight by the cultural hammers of the rural midwest and it took a bit of adjusting to adapt to the mores of Harvard and Boston. I don't think I ever really did. At any rate, when you talk about Prairie du Chien you are talking my language.

Note 2. In 1936, Dorothy Murphy, knowing that I was on the prowl for ready cash, suggested that Dr. Codman was looking for an alert young man with a typewriter to help him push his book on *The Shoulder,* which wasn't selling at all well through the usual channels. I lunched with the Codmans, got a list of likely customers for the book and departed to write letters persuading them to buy. Alas, nobody answered and after a proper period of mourning we were forced to give the idea a decent burial. For my pains Dr. Codman presented me with the #2 Loan Copy, sent first to Chevalier Jackson and returned, sent next to William Hale, Jr. of Utica, New York and retumed, and then presented to me on February 8, 1936 as compensation for my efforts, in lieu of money. It is with me as I write this. One of these days, not too soon I hope, it will become a part of my estate and subsequent Sandersons will leaf thru it and wonder about its message.

Note 3. Until Moore resurrected the cartoon I had never questioned why I have developed this thing about ostriches. If you have a good psychiatrist who will work cheap you might ask him for me whether there is a tie between my failure as a book salesman and my taking up the cudgel in behalf of the struthionidae (ostriches).

For many years I have felt obliged to dispel the myth about ostriches whenever I see it repeated. Ostriches do not bury their hands in the sand. That is an old wives' tale. It is false. There are three species of struthionidae: Struthio camelus, Struthio australis, and Struthio molybdophanes. Nobody anywhere has even seen any one of them put his or her head in the sand to avoid danger or to ignore the unpleasant facts of life.

Ostriches are always looking for things to eat. They forage for food plus nails, stones, bright pieces of glass, and what not. This they do with their heads close to the ground since that is the end that eats. For all I know they may be myopic as well.

They are not easily distracted from this. Ostriches are generally found in arid areas where it might take one all day to pick up a decent lunch, so they have to concentrate. At a distance, it will fool you. They appear to have their heads underground but actually they don't. If you creep up on an ostrich you can verify this. You might also wish you hadn't. They can kick like hell — kick, peck, spit, squawk, and throw dust in your face.

So the untruth about ostriches burying their heads in the sand has been perpetuated by nonscientific observers who haven't been paying close attention. I have had to set quite a number of people straight on this. Once they see the error of their ways they are usually eager to espouse the cause of truth. I am sure Cannon would have done so quickly once the true state of affairs was pointed out to him and since it wasn't his mistake in the first place.

From what I saw of Dr. Codman it might have taken a little longer. Though his work on the supraspinatus tendon and the Bone Sarcoma Registry was objective and unemotional, his departures into the socioeconomic areas of medical life were full of subjective and highly personal interpretation. He scared a lot of customers off by his offbeat preface and epilogue which told a lot more about the author than potential buyers really wanted to know.

I suspect that this article and the poem that goes with it might tell you more about ostriches than you want to know, too. But the truth must out.

You want to know something else? Geese don't lay golden eggs, either. At least not since the Feds cut back on the grant money.

And a happy Veritas to you, too.

Eric R. Sanderson '37

The Truth About Ostriches

You shouldn't, friend, nor yet should I
Malign the struthionidae.

I'd even urge, my friend, that we
Speak well of struthionidae.

It's oft been said when danger's near
He dunks his head and lifts his rear.

It isn't true, I must report.
He don't do nothing of the sort.

Despite his nutty, stupid rep
The struthio is plenty hep.

When danger lurks, and he can tell,
He flaps his wings and runs like hell.

There's several times that I could name
I must admit I've done the same.

For he who fights and runs away
Will live to love another day.

Whose head is buried 'neath the sands?
More likely homo sapiens.